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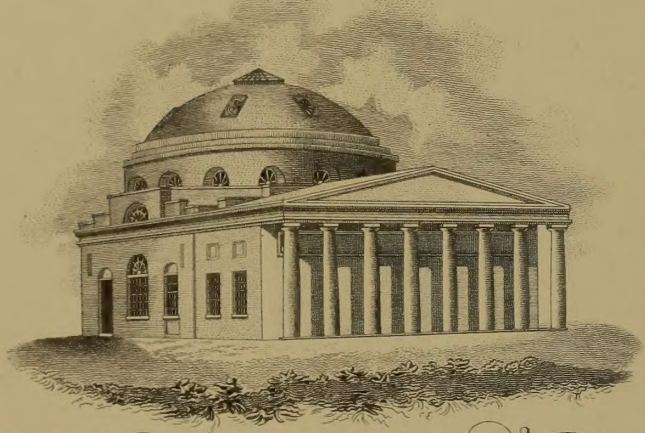

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

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A Thesis

Arthritis.

J. K. Galloway

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Arthritis

Gout is a disease which occurs generally in persons of vigorous constitutions, and at the age when the powers of life are greatest. It is a very painful affection; preceded usually by flatulency and indigestion, and accompanied by fever, pains in the joints of hands and feet, particularly in the joint of great toe, and which returns by paroxysms, occuring chiefly in the spring and beginning of winter.

Pathology. In gout we have a morbid increase of uric acid in the blood, and a decrease in the urine. There is also a deposit of chalky

matter (Tophus) to be found around the joints, principally on the bones and ligaments.
The uric acid is found not only to exist in the blood serum, but will be found also in the fluid effused by blisters, and in the pericardial, and abdominal fluids. When gout becomes fully developed, and inflamation takes place, it is similar to rheumatism, with the exception of the deposit of urate of soda, attacking bones, cartilages, synovial membranes, ligaments, bursae, muscles, tendons, and aponeuroses.

The urate of soda is deposited first in a white fluid state, like chalk and water, eventually this fluid portion becomes absorbed, leaving a hard deposit consisting of bundles of crystals of urate of soda. These concretions are often very superficial, so much so, that patients have been known to write their names upon the table with their finger. The patient is troubled with wandering and twitching pains. The pain is due to congestion. Concretions very often occur in the lobes and cartilages of the ear.

The teeth are sometimes affected the patient having a great desire to grind them. Intense heat of the nose, lasting for three or four hours, the part having first a bright and then a purplish red colour, extending over the upper portion of the chest. The sciatic nerve is frequently affected, which in the course of time may extend to the spinal marrow, causing structural degeneration.

Gout is considered to be hereditary and in many cases it is so, whether the intemperate habits of ancestors are followed out, or whether the person is very

careful in his mode of living.
It generally affects persons in
high life, but is also found
among the poor as well as the
rich, affecting those principally
who are indiscriminate in their
diet, and who habitually indulge
in malt or any liquors that
contain a great quantity of
alcohol. This disease very
rarely occurs before puberty
but it has been seen in
both sexes under twenty, the
average however is between
thirty and fifty. If a person
once has gout, that attack
establishes a greater predisposition

to another. The causes of gout are similar to those of rheumatism In addition to the acute form we have chronic, or atonic, and gouty synovitis. Chronic gout is a persistent constitutional affection characterized by stiffness, and swelling of the joints, with deposit of lithate of soda.

Symtoms. Gout comes on very suddenly, with the exception of slight indigestion, heaviness and flatulence, which occurs generally a week before the fit. The pain is usually felt first in the great toe, it may sometimes begin in the heel

ankle joint, or calf of the leg
in aggravated cases both feet,
the hands, wrists, elbows,
knees, and other parts, may
be affected at the same time.
Sometimes bending the fingers
so much, that it is impossible to use them.
In cases of this kind chalky
formations are observed,
resembling crabs eye, which
may be picked out with a
needle. In the first part
of the attack, the urine is
high coloured. The fit is
attended throughout with the
loss of appetite and chilliness

of the body, towards evening. During the paroxysm, the urine does not contain the usual amount of uric acid, but it exists in larger quantities in the blood. Phosphoric acid is also diminished in as many cases as uric. Albumen is found in small quantities in the urine, but its occurrence is only temporary. If found in large portions you may suspect chronic disease of the kidneys, which may be produced by gout. While the fit is leaving a violent itching rieges the foot,

especially between the toes, frequently the skin peels off. When the disease has become chronic, sometimes while the patient is asleep, he feels a sudden blow as if the tarsus were breaking in pieces, so that he wakes up crying with pain. The tendons of the muscles of the tibia are sometimes ricged with violent pains or cramps. Afterwards, instead of the usual external pains, he feels a certain sickness or pain in the stomach, followed by diarrhoea.

When the joints enlarge and the tissues and ligaments become thickened, and the patient suffers from loss of appetite, indigestion, sickness nausea, flatulence, pains in the stomach, cramps in legs, also low spirited, vertigo, palpitation, fainting, asthma, from stone or gravel; this is termed atonic gout. Retrocedent gout, is applied to cases of gout, in which some internal organ becomes affected on the disappearance of the disease from the joints, and should be referred to acute

or chronic. When the stomach is affected it may be either spasmodic or inflammatory. Spasmodic occurs more frequently, its symtoms are, violent pains in the stomach, faintness, coldness of the extremities, and very feeble pulse. Metastasis may take place to other parts beside the stomach, viz, head, bladder, or testicles. During the metastasis sharp shooting pains are felt, compared to stabbing with a knife. There is great change in the function of digestion

also the hepatic and urinary secretion, in all cases of gouty paroxysms. The urine when scanty and of a deep red color, is very painfull and scalding during micturition. Gouty patients are prone to the formation of renal calculi, and to paroxysms of pain caused by the passage of stones along the ureters. When the paroxysm is over the patient health becomes very much improved. This state may last for a year without him being conscious of any symtoms, which would

indicate the return of his old trouble. After a time his former feelings return, and at length a fit takes place, similar to the preceding. The last one however, is somewhat shorter and less violent than the first. Gradually the interval between the attack becomes shorter, and in some cases so short, that the patient can hardly be said to be free from gout the whole year round. Gout tends to acquire a chronic character, rarely quitting the person affected until it has left him a

helpless cripple, the rest
of his life.
Diagnosis. The diagnosis
between gout and rheumatism
is at times very difficult,
so much so, that nosologists
have described an affection,
("Rheumatic Gout".) Gout and
rheumatism are different
not only in the symtoms,
but in class of patients that
are affected, and by it being
hereditary. Gout very seldom
attacks children under puberty.
Rheumatism occasionally does.
Gout is more frequently
found among the wealthy

the luxurious, and the frequently idle, and is very seldom heard of among those subjected to labour, hardships, and exposure. Rheumatism is the reverse. Uric acid is found to be morbidly increased in the blood in gout, while in rheumatism it only ~~is increased~~ found to a slight extent. In gout there is greater functional disturbance before the attack, the disposition of the disease to fix itself on the small joints, its paroxysmal attacks, and disposition to recur at regular intervals

the brighter redness of the inflamed part, the more violent pain, its greater tumefaction, and more decided tendency to oedema, and finally the desquamation that follows when the swelling has subsided

Prognosis. Gout is not a very dangerous affection itself, but in the course of time it may lead to other afflictions, such as asthma disease of the heart, apoplexy &c which would be very dangerous to the patient.

Treatment. Local treatment is very seldom resorted to. Poultices have been applied to the inflamed part, but in most instances, the discharge has been so debilitating, that patients are said to have sunk under this mode of treatment. More advantage can be derived by waiting until the deposit becomes concrete, and then operate by making a small incision for its removal. Cold water applications are considered to be very dangerous. Dr Parry, mentions a case in which a patient

thought to gain relief by plunging his feet in cold water. The relief was instant, but in a few hours he was dead of apoplexy.

Leeches have been applied, but in general, they do more harm than good. The application of warm anodyne lotions have been tried, and in some instances great benefit has been derived. Blisters are beneficial in chronic cases, when the inflammation has a tendency to linger around the affected joint, and to cause liquid effusion.

When the pain is exceedingly great, much relief can be obtained by the application of a solution of the sulphate of atropia grs iij or iv in a weak mixture of spirits and water, this should be applied by means of a compress, covering this with oiled silk, to prevent evaporation. General bloodletting is resorted to in some cases, it produces a sedative action on the heart, and on the system in general, thereby exerting a powerful influence on gout inflammation,

not merely influencing the removal of gout from a joint, but acting also on gouty bronchitis, headache, and a form of ophthalmia which sometimes affects gouty patients. Neutral salts are highly recommended. The theory on which they are prescribed is, that the alkaline base of the salts is absorbed, and combines with the insoluble urates deposited in the joints, forming a soluble subarate, which can readily be absorbed. The salts most frequently used are the sulphates of soda or magnesia; half a drachm to a drachm should be given every night.

or ten hours; combined with
a small quantity of some
preperation for the relief of
pain. Colchicum once at one
time thought to be a specific
in gout, it is still used with
decided benefit, and may
be given in the form of tincture
extract or wine.

The iodide and bromide of potassium is considered by some to be very useful. Great benefit can be derived from the continuous use of calomel in small doses two or three times a day in a very dilute form and always on an empty stomach. If the intestinal canal be inflamed blisters should be applied to the epigastrium followed by a poultice. The diet should especially be attended to. [illegible] is said to be [illegible] of [illegible] but if used for a time and then stopped the affection is very liable to return.

The use of water [illegible]
quantities is said to be dang[illegible]
If alcohol is needed it may
be given in the form of [illegible]
whisky or gin diluted with
soda water, sweet wines should
be avoided. The patient should
retire early, keep the mind
quiet, clothe warmly, and
exercise as much as possible.

A Thesis
by
A. Umpierres
1876

Is it possible to ascertain the moment in which Celotomy is indispensable in external strangulated hernia?

The course which we propose to follow in the resolution of this proposition is as follows:-

To define a hernia; to give examples of the different kinds of hernia, what must we understand by strangulated hernia: symptoms and treatment of the strangulation: strangulated hernias that require, by all means, the active intervention of the Surgeon, without any loss of time.

Definition of hernia:- The name of hernia is given to all tumors formed by the setting out of the different viscera, or of any viscera from its natural cavity through some aperture normal or otherwise.

We could give a more concise definition of abdominal hernias by saying;- they are all the tumors formed by the protrusion of one or more viscera or of a portion of the viscera out of the abdomen.

Different kinds of hernia:-

The first division that is made in hernia is traumatic her-

nia, or the hernia which arises from fresh wounds: secondly those which are spontaneously developed in consequence of an exertion.

Hernias receive different names according to the aperture through which they project. Encephalocele is the hernia of the cerebrum, gastrocele is the hernia of the stomach, Epiplocele is the hernia of the omentum; the hernia of the intestines is called enterocele. That of the uterus is called hysterocele, while cystocele is the hernia of the bladder.

also mention omphalocele or Naval hernia, bubonocele or inguinal hernia that which takes place through the inguinal conduit and hernia crualis or the hernia which protrudes through the crural ring.

What must be understood by a strangulated hernia?

Prof Gosselin says there is nothing more difficult than to give a definition to which all surgeons may agree. His same author in his thesis for Aggregation of 1884 gives the following definition. "It is

said there is strangulation in a hernia when all the viscera experience a constriction that renders difficult the circulation of the blood, and the intestinal matters, and which opposes resistence to the entrance of those viscera into the wound"

The partisans of the herniel peritonitis, or of the false strangulation say that, that definition is not satisfactory, since when it is said that "the constriction opposes resistance," it is not known whether this opposition at the entrance of the organs of the abdominal cavity is temporal or indefinite.

these very ones affirm that the essential character of the strangulation is the impossibility of its reduction in whatever epoch and by whatever means that may be used in its unavoidable determination by which gangrene supervenes, if the surgeon does not interfere, Gosselin seems to accept this reflection when he adds the following lines: - "constriction whose unavoidable if it does persist must be the gangrene of the intestines when the reduction is not made"

In another definition given by the same author under

a therapeutic point of view says; - "constriction whose bad effects are avoided by an immediate reduction when the Surgeon is called in time." So that he admits according to this definition and so seems to indicate the term immediate which he makes use of in it, that all strangulated hernias can be reduced without operation and by some other means and above all by manipulation: in this we do not agree since there are hernias such as we will indicate hereafter which are not reduced although they may be produced in the presence of the Surgeon.

It cannot be doubted that when the manipulation is not done with prudence and regularity the effects of pressure may give rise to transcendental consequences, for then far from obtaining a reduction one would contribute to cause a contusion in the organs which cannot be done with impunity.

Massonneau has understood or recall the dangerous consequences of manipulation done in a vicious manner that for the brusk action of the hand he substitutes another more regular and above all more powerful agent such as the catchue under the form of a band. We deem it con-

point to say, that these cases of success have been constantly referred to voluminous inguinal hernias.

Symptoms and treatment of the Strangulation. The distension of the hernial bag by gases which without having been affected by the compression do not come out on account of the obstacle that the constriction now offers

Let us not forget that the phenomenon of distension does not always indicate liquid in the bag It cannot always be said with the fluctuation in the bag depends upon gases or fluids. The sound is perceived when the intestine

voluminous, this phenomena seldom occurs when the hernia is small. At first the skin and cellular texture of the tumor do not present any modification; but after a few hours the skin grows reddish a phlegmasia takes place, and the cellular tissue becomes oedematous. The tumor remains of the same size for some hours after the strangulation but on account of a more or less considerable amount of liquid that is produced in the bag, the tumor increases somewhat in volume. The signs which are referred to the abdomen are

abdominal pains, true colic, which radiate throughout the whole abdomen, whose starting point is in the place of the constriction of the sac. These pains are spontaneous and beside increase on account of the pressure and the movements of the patient.

Moreover nausea with vomiting is observed from the beginning of the strangulation, in some cases it continues in abundance but in others it diminishes.

The vomited matter first consists of nutritious substances afterwards of mucus and bilious substances and lastly of fæces

stercoraceous matter. The patient represents this matter as having an offensive smell and taste. The patients have sour eructations, and after the second day have hiccough. The patients loose all appetite and refuse to take any food. As in the strangulated hernia there is an obstacle to the course of the fecal matter, it is evident that the want of expulsion of gasses and of those matters will be a constant phenomenon.

Patients sometimes defecate either naturally or by means of an injection; in this case it is necessary to suppose the existence of these matters after the constriction

The abdomen is voluminous, sonorous to percussion and meteorism more or less notable. In some cases so great in the intestinal obstruction as to cause the diaphragm to be compressed, and then the breathing is short frequent and difficult. The other functions of the organism sometimes operate normally at the beginning, and more particularly, as Gosselin says, in the crural hernia. In the other hernias from the beginning is noticed slight febrile movement, increase of heat in the skin and a general indisposition. The pulse is afterward observed to become more rapid, filiform and intermittent

the features are disfigured, the face contracts, the heat of the skin decreases, and is covered with a cold and clammy perspiration. In some cases the patient presents a cyanotic color, and at the same time coldness, slowness of the pulse, cramps, and suspension of the urine. These symptoms increase and the patient dies from the prostration, and rupture of the strangulated intestine causing an overflow of fecal matter into the peritoneal cavity, and resolving itself in a few minutes into acute peritonitis which ends with the patients life.

In some rare cases where the intestine has remained outside and

emptied itself, if the economy have strength to resist the effects of the gangrene, the patient is cured in virtue of the preternatural anus formed. This description corresponds to the enterocele and to the enteroepiplocele. When the case is of a strangulated epiplocele the described phenomena are not so remarkable, and the evacuations are not suspended, for they take place when a purgative is given or by an injection. Malgaine, Brica, Richert, and Escarpa describe acute strangulation in the following way:- Pain in the tumor which is increased considerably with pressure, colic, frequent vomiting

eructation, hiccough, inflammation of the abdomen, congested face and notable febrile movement. The first two authors place these cases under the head of true strangulations (ie) they believe the knife the only remedy. The treatment of strangulation offers a thousand difficulties, that cannot always be overcome. by We have choice of two methods either medical or Surgical Diverse and innumerable have been the means put into practice the treatment by medicine. This very richness in the medical way proves its inefficiency, and whilst trying our remedies we are loosing precious time.

This work, as it is known, would be of not a great labor, but to accomplish it, it would suffice to mention here, what the classic authors have said on this point.

The assistance of the surgeon ought to be of great importance, there will be cases in which we will be obliged to make the taxis immediately, either as a touchstone, or as a curative means. There are other cases in which the incision is applied as an urgent and necessary operation. I will touch upon these matters more at length in the conclusion of my theme. Let us say a few words about the "Taxis" and incision.

The taxis consists of the systematic pressure that we apply with our hands or other object on the ruptured tumor as means to reduce it. All authors do not apply the same treatment to this method.

The moderate and progression taxis is recommended by Francis, Garengeot, Sharp, A. Cooper, Dupuytren &c etc. The forced taxis has been recommended by Lesfranc, Amussat, Gosselin is an exclusion partisan of the lengthened taxis, and simultaneously uses chloroform up to the complete reduction. Maisonneuve proclaims the taxis by compressure by taking advantage of bandages three fingers wide, and ten yards long.

The accidents to which taxis is subject are various, the increased inflammation of the hernia, the rupture of the intestines, the reduction of the hernia with the bag and therefore the internal strangulation. The taxis should be tried in the voluminous & and medium hernias; not so with those small ones that have the form of a chestnut, since experience has taught us, that the latter, in the majority of cases, cannot be reduced by similar operations. In this last case herniotomy has to be done without loss of time, but if circumstances permit it would be best first to try taxis.

The taxis cannot always be applied to the voluminous hernia. Several conditions are to be taken into account: that the hernia may be recent, that the compressure of it may not give heartfelt pains, and that there may not be any phenomenon which may show gangrene of the intestines, or a peritonitis somewhat prolonged. Can it possibly be said what are the cases which imperiously demand the active assistance of the surgeon without a loss of time? As it is easily understood this question is of a delicate nature, and it is especially true the precipitation and want of skill of some surgeons have been the

cause of the terrible consequences of a protracted taxis.

Shall we follow in their footsteps, which experience teaches us leads to the sad reality of unhappy issues? Certainly not!!! There remains no doubt, but that the first means that we shall have recourse to, in a general point of view, is taxis. When the hernia is primation, small and the strangulation painful, when the pains are considerable, and the vomiting frequent, then it behooves us, by no means, to loose time. Experience has taught us that taxis should be avoided, but that we should have immediate recourse to Celotomy. The most eminent

Surgeons agree on this point viz. Malgaine, Brica, Francis, Pott Decault and Nelaton.

Malgaine and Broca speaking of the symptoms we have described say, that there are no means by which this strangulation can be overcome but by the incision-knife,. In the small hernias of which we have already spoken they are found generally formed through the intestine, although it cannot be denied, that in some cases a portion of the epiploon, though small it may be, is ruptured.

Experience has taught us that in small hernias, the phlegmatic phenomena, the gangrene, and perforation of the sac, [illegible]

with wonderful rapidity; in this kind of hernia the strangulation is true, and nothing can be gained by taxis. The irregular pressure that is made against the intestines provoke the inflammation, though there is no sufficient epiploon that can protect it. Gosselin a partisan of taxis in every case, expresses himself thus:- "Since the "probability of a similar case is of "a true strangulation we should not "lose time, and the incision is "immediately necessary!" he also "says:- "When the hernia is small it "is necessary to believe in a prema- "ture perforation, and to admit its "existence 36 hours after it has been "presented!"

Let us suppose for an instant a small hernia that has been strangulated, it gives an intense pain in the whole pedical of the tumor, the bowels become somewhat swollen, and tympanic, fever rises, and the vomiting continues, the costiveness is pertinaceous, the opening of the hernia becomes red, a sensation of more or less softness is experienced in the cellular tissue of the underskin. What has to be done in this case? Every surgeon without exception, even those who so greatly favor taxis, are of the opinion that the operation of Celotomy should be done, and that without delay.

Since as Gosselin wisely remarks, the last two signs indicate an intestinal perforation, and a flow of stercoraceous matter into the bag. If besides, what we have said, other phenomena should appear in the tumor, who would dare put in practice the taxis, who when using this means, would risk bear the title of a criminal? There then is the appointed time when the surgeon with his knife in hand ought to be of service, that is to say when the strangulated hernia is small, and when some of the phenomena of which we have already spoken are presented. We should bear in mind that

although very few cases of small and strangulated hernias have been cured by Taxis without any consequences, however, if the hernia has been examined, and no signs of perforation or gangrene are apparent, there is no reason why we should not use moderate taxis for ten minutes, if nothing is gained we should irrigate the tumor with ether. If after two hours time, having made the Taxis, the local phenomena continue in the same way, that is to say, if none of the signs that contraindicate taxis appear, we should make other Taxis, and if the second application is not sufficient, we should have recourse

to celebrity even if those phenomena of which we have spoken, and which contra indicate the taxis have not appeared. Thus the question concerning small and strangulated hernias is explained. Let us now go on to those that have a medium and thick volume. Experience has taught us, that in these the phenomena of inflammation perforation and gangrene are not so quickly met with as with the small ones of Petit. In this case the progressive taxis should be employed at the beginning provided there be no phenomena that contra indicate it, as pal-

foration, gangrene etc. Besides in these cases the intestines are protected by the epiploon, and the consequence is not so fatal as in the small ones. Gosselin says that generally in the medium and thick hernias the perforation is not presented until the third or fourth day. Let us suppose a hernia of medium size in which no sign of perforation or gangrene has presented itself. What should we then do? Exhibit the taxis for the space of ten minutes, then irrigations with ether, if no good results and the symptoms do not abate, we should again try taxis for fifteen minutes at most having etherized the patient,

if no good result have followed this our second application of faradism we should again irrigate the part freely with ether and make an incision for the third time. There is no objection to using purgatives and injections, as well as every other means that is recommended by the science. If afterward the skin becomes red, oedematous and crepitating, and if the symptoms of the third period unroll themselves, then we have to dispense with the means aforesaid and proceed immediately to Celotomy

Here then is fixed the time for the operation of Hysterotomy,

wherein the hernia is small thick and has been strangulated.

A. Dumpierres
Balts Infirmary
Febry 14 1876

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Pseudo-membranous Croup.

Pseudo-membranous laryngitis or true Croup, is an acute inflammation of the mucous membrane of the larynx characterized by a fibrinous exudation. It is confined almost exclusively to the period of childhood, rarely occurring in adult life. It is seldom seen [illegible] the age of [illegible] [illegible] [illegible] [illegible] [illegible] years [illegible]. The common exciting cause [illegible] cold and the [illegible] of irritating substances. The specific causes [illegible] [illegible]

A Thesis
Intermittent Fever
by
H. C. Cline
1876

Intermittent is one of the periodical fevers, with characteristic paroxysms, occurring in regular succession. between which, there is an absence of febrile movement. This fever is popularly known as the fever and ague, chill fever and by a variety of other names, expressive of the particular section in which it was produced. The history will include, first of the paroxysms, secondly of the intermission and thirdly of the different causes by which, the disease is generated in the system.

In the greater number of cases, the attack comes on very suddenly though at times, there may be premonitions which are not characteristic, yet sufficient to lead any one to a correct anticipation of a coming attack. The complete paroxysms consist of three separate stages, the cold, the hot, and the sweating stage. The cold stage comes on by a sensation of coldness in the extremities, which gradually spreads over the whole body, accompanied by a shivering

or trembling, and intense shudder
which, rapidly, pass through
the system. The teeth chatter,
muscular rigors set in, bristling
of hairs over the body, while
the tissue of the skin, shrinks
from the capillary follicles,
presenting the so often observed
and familiar gooseskin appearance.
By a closer examination, a decided
decrease of temperature, below
that of health, will be observed
in the extremities, but by an
application of the thermometer
in other parts, a decided increase
may be observed.

The pulse becomes feebly accelerated, with excessive thirst, loss of appetite, head-ache, low spirits, no sperspiration but the amount of urine is increased, with low specific gravity and nearly colorless. The chill generally lasts from ten minutes to an hour. The internal organs become very much congested, for as there is no diminution in the amount of blood; yet, by an influence of the vaso motor system of nerves, causing a contraction of the peripheral vessels and thereby forcing the blood from the surface of the

body and accumulating it in the internal organs. The transition from the cold to the hot stage, is not at all sudden, the succeeding warmth, very comparatively agreeable. The skin becomes gradually hot, pulse frequent and strong; the face becomes flushed, with a unusual burning heat, and a dizziness over the whole surface, and a distension of the skin with blood. At this time a rapid increase of the temperature will be indicated by the thermometer

rising to sometimes as high as, one hundred and six, to eight degrees. Thirst is in this stage a prominent symptom, the mouth is dry, the tongue is furred, with violent head-ache, nausea, and vomiting, the bowels constipated, a diminution of the secretions, dry skin, with scanty and high colored urine. The influence of Caso motor system being withdrawn in this stage, causing a dilatation of the vessels and allowing a full supply of blood to the surface, which may also be due

to an increased need of the tissues for blood. The next is the sweating stage, which comes on gradually, and some suppose, depends upon the hot stage; the stronger action of the heart, filling the superficial capillaries with blood, and thereby restoring the natural secretions. The sweating stage coming on gradually, the moisture first appearing on the face, then, upon the extremities. There is a feeling of comfort over the whole body, the head ache is lessened, the disturbance

of the stomach ceases. There
is a total disappearance of all
febrile symptoms, followed
by a slow, soft, full pulse, and skin,
The secretory organs resuming
their natural functions.
The time between the paroxysms
is called the intermission, while
the interval is the period from
the beginning of one to the
beginning of the next paroxysm.
The interval is considered
the source, from which
the different types are derived.
Each type is governed by
certain periodical laws. Eight

out its whole course without
any variation. The division may
then be into three simple types,
the quotidian, the tertian,
and the quartan. In the
quotidian type the paroxysms
occur daily, or the interval lasting
twenty four hours; in the tertian
the paroxysms occur every
other day or having
an interval of forty
eight hours, and in the
quartan type the paroxysms
occur every third day or
giving an interval of seventy
two hours. There may be

other types of the disease such as those, which occur on the fifth, sixth, seventh, and eighth days, giving the quintan, sextan, septan, and octan types. Other types have also been noted, as the double quotidian, tertian and quartan, which are extremely rare. The most frequent is the quotidian. In the same locality one type may dominate one season, and another type, the next season, it being governed entirely by the influence surrounding

that locality. Paroxysms seldom occur at night and hence they may occur at any hour in the day. The quotidian and tertian types, generally occur before noon, but the quartan at any hour in the day We may sometimes have a transformation of either one into other forms, as a quartan may change into a tertian, or a quotidian into either of the other forms. The disease can be said to be either retarding or advancing, as the paroxysms occur at earlier or later hours

in the day. They vary very much as regards duration, generally lasting longer in the quotidian than in the tertian type, and much longer in the tertian than in the quartan. If the disease is protracted or becomes chronic, the paroxysms are invariably shortened. It is also supposed, that there is some influence exerted, for it is noticed, that as the advancing or receding paroxysms occur in the night, they are curtailed or cut short. If intermittents be left to themselves, they may

terminate spontaneously, but
when the poison is once
in the system, there will
be an evident predisposition
to a return, and will often
be provoked, by very slight
causes; and be very indefinite
in the duration. If the disease
be checked at once; nothing
follows except a disposition
to return. which may
last to an indefinite time,
and if allowed to run
on, disagreeable consequences
will be apt to follow. The
complications and sequelæ

attending intermittent fever, may not be from the malignant character of the poison, but from the state of the system whether it be low and debilitated, or strong, healthy, and vigorous In chronic cases anaemia may take place of a marked character. The organs most liable to become affected are the spleen liver, kidneys, stomach, and bowels, The spleen will become enlarged to sometimes twice its original size, so as to render it easily felt through the abdominal walls which may exist for a long

time after the paroxysms have ceased. The liver will also become enlarged and diseased, resulting in diarrhœa, dyspepsia and jaundice. In long continued cases, the face becomes bald and sallow, a feeling of languor and weariness pervades the whole system, the countenance assumes a dejected and sad expression, and the face has more or less of the swelled appearance. The discharges from the bowels are scanty and in a proportionate number of cases, dropsy will occur, and

frequently, when the remedies,
the disease is suddenly checked;
which may be owing to a serous
discharge, instead of the natural
secretions, or to a watery condition
of the blood. The liver and
spleen being diseased another
form of dropsy, very difficult
to cure may occur. The cause
of intermittent may involve
a specific miasmatic poison,
which may be, emanations
from decaying matter; but
some authors urge that it
is not due to injurious decom-
position, as it has been

known to exist where there was no growth of vegetable matter; as an example, when it prevails in low, moist marshy soils, as in the case of the English soldiers, who bivouacked in a ravine, which had been a river; and the next morning one-half were infected by the poison. The infection may sometimes prevail in high and dry sections, but it seems to have an affinity for low, and moist grounds, though there may not be any vegetation present. The temperature

at which it is developed is seldom known, than sixty degrees, and the nearer we approach the equator, the more virulent it becomes. It has an affinity for dense foliage, and is often emanated by even turning the soil and can be transported to a distance of several miles. A body of water is said to have an absorbing effect upon the miasm as it has been known to prevail upon one side of a river, while the opposite side, enjoyed perfect immunity

from its influence. According to Prof Salisbury it may be due to an ague or cryptogamic plant as discovered by numerous microscopical examinations, from the salivary secretions and mucous expectorations; and upon further examination of the urine plants were found, identical with those existing in the soil of miasmatic districts. The diagnosis of intermittent is not difficult if you consider the malarial origin, the only diseases from which it is to be distinguished

as the hectic and remittent fevers. The hectic has the prolonged sweats at night, absence of head-ache. irregularity of paroxysms, while remittent fever is distinguished by the continuation of the fever during the interval. Prognosis is very favorable. the most danger being from secondary affections, such as dropsy and enlargement of spleen and liver. In the treatment of this disease, there are many remedies recommended, but the remedy upon which

the most reliance is to be placed, is the sulphate of quinia. It can justly be called a specific, and in the vast majority of cases, will exert a marked and beneficial influence upon the system. It should be the aim to arrest the paroxysm as speedily as possible and with this object in view, the quinia should be given in large and repeated doses. Among other remedies employed in the cure of this disease, we may mention arsenic which is given in the

forms of Fowler's solution in doses of ten or twelve drops three times a day, Nitric acid is given in doses of five to eight drops. Hydrochlorate of ammonia may be given in drachm doses. Strychnia is also given. Iodine will sometimes succeed. The internal use of Chloroform in drachm doses is highly recommended. If an opiate be given at the commencement of the cold stage it will moderate the severity of the symptoms, the warmth of the body should

be kept up by external applications, while stimulants should be given internally. In hot stage, great comfort can be obtained, by sponging the body with tepid water, and in the sweating stage by frequently wiping the body with flannel.

Nitric acid bids fair to become an important remedy in treatment of this disease, and is highly recommended. But of all the known remedies, quinia is considered the best. It should be given in large and less frequent doses, twenty grains should be given during the first of twenty

four hours, in doses of five grains each, or until cinchonism is produced. How important is the part, which Cinchona plays in the treatment of malaria." and when we consider the slowness of its introduction into medical practice, a sad comparison is made upon the perversity and blindness of human nature; which conspired to reject, and contemn, one of the most valuable discoveries recorded in the history of medical science.

An

Inaugural Dissertation

On

Scarlatina

Submitted to the Examination of the

Provost, Regents & Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

H. A. Norman

January 31st 1876.

affections, but [illegible] as permanent
and constitutional disease, in which
the cutaneous eruption may be
looked upon as a most striking
and characteristic feature, there
are few diseases which present
a wider range of severity in
different cases, as regards persis-
tence and fatality - Hence, there
few. The same malady [illegible] which it
is a mere trivial affection, but
in its severest [illegible] none is to
be more dreaded or more
appropriately styled malignant
in its nature, than [illegible] the
[illegible] of childhood.

In treating of this [illegible] it is impossible to do so [illegible] any regular or prescribed order — owing to various [illegible] and complications which are liable to [illegible] in any stage of the disease. Hence we will first describe what we [illegible] consider a fair type of the disease without complications.

Varieties.

Many writers have [illegible] three varieties. Scarlatina simplex, Scarlatina Anginosa and Scarlatina [illegible] these three varieties [illegible]

[illegible] by many authors, and are described in many of our text books - yet there is a difference as to this classification - and as scarlet fever without anginose symptoms, there is [illegible] does not exist - we are [illegible] justifiable in making but two varieties, Mild & Severe. There is no such a disease as Scarlatina Simplex without a sore throat - hence such a variety can very properly be disregarded. The affection may occur without any symptoms [illegible]

for 24 hours before the rash
comes out. On the 2nd day the
eruption generally appears —
usually first on the face, neck
and arms, thence extends in
about 12 hours over the whole
body, covering the body and
lower extremities in succession.
Sometimes this order is reversed.
There is sometimes [illegible] and
vomiting with or without
diarrhoea or there may be
constipation. The throat is [illegible]
[illegible] [illegible]
difficult deglutition, [illegible]
[illegible] the temperature [illegible]

along with the [illegible] mucous which puts on pretty much the same appearance. The Schneiderian membrane becomes affected and often produces a thin serous and sanious discharge. The tonsils and uvula become [illegible] and swollen. The different mucous surfaces which are affected, usually terminate by resolution. Just as the eruption begins to decline about the 7th day, the fever abates, [illegible] the poison has by this time experienced its force in a day or two more the disease [illegible]

the patient [illegible], [illegible]
weak and in an [illegible]
condition. However mild this
variety of the disease may be,
the practitioner should be very
watchful to remark any un-
favorable symptoms that may
arise. Especially should the
urine be frequently examined,
as this disease is so very capricious
and subtle in its nature - daily would
not be too often to insure the welfare
and proper care of the patient.
The points chiefly to be noted in
regard to examination of the urine
are as to quantity, Sp. Gr. reaction

and presence there or persistence
of Albumen. But the principle
danger is as to the suppression
of urine more or less complete —
which would give rise to very
untoward symptoms — Uraemia —
with uraemic poisoning [illegible]
convulsions or the deposit of
fibrin in the right side of
the heart. Occasionally the disease
does not run such a favorable
course — but at times all the
symptoms become aggravated.
The mouth, fauces, tonsils and
posterior nares become inflamed
these tonsils may become [illegible]

the tonsils become inflamed & congested and inflammation may at length may suppurate. There is also much more pain and difficulty in swallowing, so that fluids taken by the mouth are frequently returned through the nares. When this becomes intense, the temperature becomes high at night often rising to 104°–106° and to 107° (F). When the temperature rises to 105° there is much danger, and beyond this the disease is necessarily very severe. The skin is at first covered with stinging sensation and itching which lasts till about

the 3rd day. [illegible] the
affection assumes this severe form
that the mucous membrane [illegible]
of the [illegible] mouth and pharynx
are very liable to take on ulcerative
or diphtheritic forms of inflammation
covering them with an exudation
even in the quite early stages of
a pultaceous character and not
coherent nor of a membranous [illegible]
position as in the true forms
of diphtheria. This exudation
when it disappears leaves the
tissues beneath of a [illegible] [illegible]
ulcerated appearance. And all
the time this [illegible] pultaceous

suppuration is appearing the febrile symptoms increase and become much more severe. About the 6th day the efflorescence begins to disappear and with it the fever passes to low state. But the throat may be sore and deglutition be accompanied with pain for a week after. It is in these cases that the inflammation extending from the pharynx may seriously implicate the lining membrane of the Eustachian tube, causing otitis and perforate the tympanum, terminating finally in permanent deafness.

The submaxillary and parotid glands

sometimes inflame and suppurate. It is to be remembered that various complications may have occur, as affections of other and more distant mucous membranes such as vaginitis which is not of very frequent occurrence. And also affections of serous membranes, such as pericarditis and pleurisy which are not unconscious, hence we should pay particular attention to internal organs, as there is great predisposition of serous as well as mucous membranes to take on inflammation in this affection.

Malignant Cases.

When these cases are most malignant violent and appalling. The nervous phenomena are fearfully developed. [illegible] on at night with the most alarming symptoms. The scarlet rash soon makes its appearance, convulsions ensue, coma comes on and death speedily ensues. At other times the child retires apparently well, and before morning comes it is suddenly seized, without any symptoms. The skin is hot in one place and cold in another, sometimes dotted with a [illegible] [illegible] [illegible] stupor, [illegible] [illegible] [illegible]

in [illegible] child dies in 12 or 24 hours from exhaustion under the overwhelming virulence of the poison. In this form of the disease the soareness of the throat may become extreme, the tonsils and tonsils greatly swollen — the tongue even becoming dangerously enlarged and oedematous, giving rise to very urgent symptoms. The skin red, hot and dry, the temperature rapidly rising and the poison so overpowering the system as to give rise to a low typhoid condition, with wandering, delirium, carphologia, [illegible]

[illegible], or [illegible]. This variety may [illegible] such a malignant aspect from the beginning, as by its virulence to overwhelm the system and produce its fatal consequences in a very few hours. It is, however, seldom that this extreme virulence shows itself within such a short time, it generally proves fatal in from 3 to 4 days. The uvula, palate and tonsils are covered with a whitish, lymphy exudation, the teeth become covered with sordes, the breath very fetid -- the cervical glands

often become affected by the inflammation and suppuration, sometimes ulceration [illegible] occurs. This form of Scarlet Fever is extremely fatal, but if a patient previously healthy, survives the 7th or 8th day, it is very likely he will be able to recover, but often the [illegible] and sometimes permanently [illegible] so as to the exercise of some of its functions — such as impairment in deglutition or partial deafness.

Sequelae of Scarlatina.

There are many complications liable to arise during the progress of the disease in one or other of

its varieties - some of which I have already mentioned. Since in fact any affection which might arise in the course of this fever would complicate it to a greater or less degree, such as measles or pneumonia, which is not at all unusual; any of which would tend to make the disease still more grave. But it is to affections which occur during or after convalescence to which attention is now particularly directed, commonly classed by authors as sequela.

Otorrhoea.

Inflammation of the tympanum and

sometimes occurs as a sequel to scarlet fever, but often commences during the later stage of the affection and forming a very troublesome complication. At other times it arises during convalescence. At any rate it is liable to last for a long time, for many and the sometimes, annoying the patient by the escape of a thin, ichorous, purulent discharge, very intractable and indisposed to yield to any sort of treatment. This form of ear trouble fortunately, does not lead any permanent deterioration of the sense of hearing, although the

may be transient deafness.
But there is another form of this trouble more to be dreaded, that is where the inflammation from the mouth or pharynx extends along the mucus membrane of the Eustachian tube to the middle ear and sets up a violent inflammation there, this inflammation is sometimes followed by the most disastrous results, such as perforation of the membrani tympani, with expulsion of the small bones of the ear, in which case permanent deafness will be the result. The sad consequences of this inflammation

may not cause here that pus run into the inner and lower portion of the cranium, by extension along the petrous portion of the temporal bone, and affect the petrosal and lateral sinuses – cause obstruction to the circulation, congestion of the veins, coma and death. But fortunately the melancholy termination of this form of Otitis is not frequent.

Whilst Otitis & Otorrhoea with all its sad consequences is one of the results of this disease, as we occasionally meet it – there is another of more frequent occurrence and [illegible]

more importance, on account of its presence, of which we will now proceed to speak of

"Albuminuria."

In regard to the time of the occurrence of this affection, it is liable to considerable variation. But it is generally connected with desquamative nephritis, and comes on in from 10 to 20 days after desquamation. After this [illegible] the patient [illegible] is generally considered safe, [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] after [illegible]

The [illegible] [illegible] [illegible] [illegible]
found in a somewhat congested condition. And a curious fact noticed is that where there are violent contract[illegible] symptoms before death, after death there is no inflammation found there.

Diagnosis.

Much was [illegible] [illegible] said under the head of symptoms which [illegible] [illegible] [illegible] [illegible]. But as there are other [illegible] equally liable to be mistaken for this affection, it may be well to [illegible] with more [illegible] [illegible] [illegible] of [illegible].

In Scarlatina the eruption is [illegible]
[illegible] in patches.
In Measles the eruption is crescentic
in form and lasts about 5 days.
In S. there is sore throat and [illegible]
redness of the mucous membrane.
In M. There is rarely any sore throat.
In S. Rarely any catarrhal symptoms.
In M. catarrhal symptoms prominent.
In S. cerebral symptoms frequent
and grave.
In M. cerebral symptoms are not
frequent nor grave.
In S. Bronchitis and pneumonia
rarely occur.
In M. Bronchitis & pneumonia often occur.

In scarlatina – the sequelae [illegible]

[illegible]

In measles – the most [illegible]

is chronic bronchitis.

Roseola [illegible]

taken for scarlatina [illegible]

two suffices to show the [illegible].

In measles the incubation is from 10-14 days.

" Variola " " " about 12 "

" Scarlatina " " " [illegible] 4 6 "

The eruption appears in measles [illegible]

" " " " Variola " " " 2nd "

" " " " Scarlatina " " " 2nd "

In measles the eruption begins to fade

on the 7th day. Whilst in variola scabs

begin to appear on 9th or 10th day

Prognosis.

There is no disease more insidious than scarlatina, hence the prognosis in this affection is very uncertain. In cases where the eruption comes out freely, runs an even course and is not complicated by any intercurrent affection the prognosis is quite favorable. But when the anginose symptoms are severe, it must be very guarded. And when there is sloughing of the throat, palate or tonsils it is unfavorable again. And in some forms of this disease where it assumes malignancy from an early period,

with the other symptoms increased,
death is the [illegible] [illegible] the [illegible]
Dr. S. Weir Mitchell thinks locality
has something to do with it, and
if this be so, it behoves us to
look "cum granno" upon the
[illegible] [illegible] [illegible] [illegible]
of a brother practitioner, who may
have to contend with an epidemic
in a different locality from our
own. The prevailing type of the
epidemic has [illegible] to do in
influencing our prognosis, but
more depends upon the intrinsic
nature of the [illegible].
Convulsions are always dangerous;

occurring at any time, whether on the 1st 2nd 3rd or 5th day.
During the desquamative period there are more dangers than at the onset owing to the liability of uraemic poisoning. In pregnant and puerperal women scarlatina is exceedingly dangerous and very often fatal. But it is not proper that for any practitioner having a case of scarlet fever to attend his own wife in confinement.

Causes.

There are two prominent causes, first by infection and secondly it is chiefly propagated by ...

influence. The disease can be transmitted by fomites such as articles of clothing. In our own latitude it is most frequent in spring and summer, but may occur at any time. It attacks children mostly between the ages of 3 and 5 years.

Treatment.

The treatment of scarlet fever varies with the type of the disease. In mild cases there is but little or no treatment to be instituted beyond proper regulated and hygienic management. In no case is heroic treatment

to be adopted in this [illegible] —
(bearing in mind Sydenham's aphorism).
It is impossible to cut short the
disease itself in its course by remedies
which the physician may ad-
minister, he can do little more
than assist nature to bear her
burden, or tide it over the most
critical stage of the disease, and
to check or treat symptoms as
they may arise — certainly the
physician is not to adopt a
"do nothing plan" of treatment, but
institute proper and rational treat-
ment in each case. In the early
stage of the affection if [illegible]

is known to be loaded it is proper to give a prompt and stimulating emetic, such as Ipecac. or x and alum ʒi, or if the bowels are constipated a mild laxative may be given, as magnesia followed by a little lemonade, or solution of citrate of magnesia, or Rochelle salt ℥i–ii to a child 4–5 years old. The room should be kept cleaned and well ventilated, but care taken that no drafts or currents of air play upon the little patient, as it may be very seriously affected by such a sudden exposure. The temperature of the apartment should be kept an

equable as possible, [illegible] 68°–72°. And when the febrile excitement is rather severe, it is well to keep the temperature rather low (68°) than high, and in case of abatement of the fever it may be slightly reduced (to 70°–72°). During the period of febrile excitement, cold or tepid baths, ranging from 75°–90°, are very beneficial, & if I were to choose I would prefer the cold bath in most cases, for reasons rational and satisfactory to reduce the fever, but as there is doubtless an aversion in the popular mind against such a mode of treatment, a tepid bath [illegible]

then be [illegible], or [illegible] of
the body with the [illegible] water would
[illegible] either [illegible] of the [illegible]
desirable results. But in cases of
high fever with the [illegible] [illegible]
symptoms, as delirium or convulsion,
nothing appears to be as efficacious
as a general hot bath, the child
gently wrapped in bed, will fre-
quently become much refreshed and
be able to obtain refreshing sleep.
The diet should be unstimulating,
but nutritious, [illegible] of [illegible]
articles, [illegible], and [illegible]
of cold water allowed throughout the
fever - acidulated with lemon

juice or vinegar as a common
drink; with attention to the bowels
and confinement to the room, or
better still to bed, soon be all that
will be necessary to complete the cure.
But [illegible] by neither of these
any other treatment [illegible]
As a general rule the patient should
be separated from the rest of the
family and intercourse interdicted
save with the attendant or nurse,
at least as a precautionary measure.
It is well to use fumigations of
sulphurous acid gas in the sick room
and after convalescence the room
ought to be thoroughly disinfected

whitewashed before it is again occupied. Where the case has come out the [illegible] the [illegible] desquamating [illegible] the [illegible]. The [illegible] was [illegible] may be attained by [illegible] of lime [illegible] bed, as he has been much used in Germany by rubbing thoroughly the surface all over with the rind of bacon. Some have even trusted to this method alone in the treatment of scarlet fever. But as this method is disagreeable and unpleasant to many, [illegible]

more agreeable application and
as equally efficacious is pure Glycerine
impregnated with Cologne water.
This has the merit of being a more
eligible method of soothing, if not
entirely relieving the consuming
itching, or Glycerine and Cinnamon
of Rose Water, rubbed in several
times a day, because the itching
and is also good for the skin.
In the treatment of this [illegible],
baths and [illegible] are of all
the most important.
The use of Acetic Acid is used by
some in all forms of this [illegible]
[illegible] is [illegible]. It is [illegible]

that this agent has some influence
in some way of keeping the fibrin of
the blood in a fluid state, and
beside this, apart from its properties,
it is undoubtedly a valuable
remedy, where the disease takes on
an adynamic form, it is a good
diffusible stimulant. The Carb. of
Ammonia in doses of grs V is an
eligible remedy. Preparations of
Chlorine are recommended by some.
During the height of the fever Quinia
may be given to some advantage in
doses of from grs V–X.
Plenty of cold water should be allowed
when thirst requires it, and also to

the throat and to the [illegible] will be often found very grateful to the sufferer—especially if dangerous symptoms and inflammation are severe. In this form of sore throat while venesection, tartar emetic and calomel, or other depressing measures are inefficacious to arrest the inflammation, in some cases a couple of leeches will often be found to give sensible relief. Astringent washes and gargles may also be found efficacious in changing the nature of the inflammation, [illegible] is a useful one. Among those sometimes recommended is a strong solution of [illegible] of

[illegible] (grs. XV–XX to ounce ℥i.) or a solution of Carbolic acid, or a small quantity of Creasote in glycerine; or Salicylic acid (grs. X–XX to ounce ℥i) with a small quantity of Borax or Phosphate of Soda, to hold it in solution.

℞. Pyroligneous acid ʒii
Chlorate of Potassium ʒi.
Water q.s. ℥vi.

makes a good detergent gargle especially for the older ones. For them, instead of using these preparations as washes or gargles, it will be much better and more efficacious to spray them upon the parts affected, when this can be done; for children under 3 years or even 6 can

not be induced to gargle without
some difficulty.
In the mean time a drink of Chlor.
Potass, will frequently be found ben-
eficial ℥i to water Oi in doses of
a wineglass full at a time,
A gargle made of flaxseed tea and
lemon juice is often very good and
highly recommended. If the neck is
much swollen, tie to the outside.
A good stimulant and anodyne
liniment for the neck is made thus
℞.
Soap Liniment ℥i
Camphor Tin. ʒii } mixed
Sp. Opii ʒi

Internal remedies should be of a sustaining nature - stimulants as carb. Ammonia, Tincture [illegible] & Iron, for the [illegible] Bitters [illegible] XV - XX. [illegible] toms abate the feet should be well [illegible] [illegible], [illegible] [illegible] [illegible] [illegible] [illegible], [illegible] plenty of [illegible] milk [illegible], [illegible] [illegible] efficacious at this period.

For the Dropsy intervening, cups over the Kidneys and draw from ℥ii - iv, [illegible] [illegible] [illegible] [illegible] be sufficient. [illegible] in order to give the child moist warmth.

Give plenty of [illegible] [illegible] practice [illegible]

of this disease, we must give
[illegible]
[illegible]
according as the case may be.

TYPHOID FEVER.

Wm C. Harris.
M.D.

Cognizable among the several pyretic affections which frequently present themselves to every practitioner, typhoid fever, both by reason of the guar care necessary for its proper treatment, and its concomitant lesions, and complications, occupies a by no means inferior position in the general classification of these diseases.

Such a peculiar subtilty attaches itself to this disease, that many points have still eluded a satisfactory explanation, and a complete cognition of its natural dependencies, and

essential principles, has so far baffled the researches of the most able workers, though the untiring assiduity and praiseworthy energy of some patient observers, will no doubt be eventually rewarded with success.

A true recognition of this disease is rendered necessary, both by reason of its mortality, and the proper care required to be bestowed upon its proper management; and though there may be some difference of opinion in regards to the offered explanations, in answer to the various phases,

and manifestations of the disease; yet no doubt by a due consideration of the proffered explanations, and attendant propositions, such a ways can be established from the extremes, as will appear of a sufficient consistency to each inquiring mind.

In the study of all questions, which may in any way involve the presentation of opposite views and theories; it seems but fair, that each person should be allowed, to hold his own particular theory in opposition to those presented by parties of a widely different min

and direction of research; provided it be in any way tenable; and thus very non-existence of opinions will, in all probability, by reason of the zeal with which it inspires those parties deeply interested, and the mental contention to which it gives rise, tend to accumulate fresh stores of knowledge, and by the very antagonism new tendrils will be thrown out in the form of mighty intellects, which will ultimately grasp those long unfathomed secrets of nature, bringing to light truths previously buried in obscurity, and irresistibly force them

upon even the minds of the most
sceptic.

The disease under consideration
is known under several distinct
names, each of which is intend-
ded to designate some individual
peculiarity, or convey compre-
hensively, as near a general
idea of the affection, as may be
derived from the use of a single
or more terms.

The selection of these terms is of
course at the option of the stu-
dent, still it is necessary that
he should become acquainted
with the various appelations under
which the disease goes, in order
that we may quickly recognise

the complaint when met with in the course of his readings.
The name by which it is usually designated in this country, is that of typhoid fever, derived from two Greek words, the one τῦφος, meaning a stupor, a name from which its somewhat kindred complaint typhus fever, has received its appelation and the other εἶδος, conveying the idea of its resemblance to that affection.
Bretonneau was accustomed to consider it under the name of "dothienteria" the Greek etymology of the word marking out in particular the characteristic

abdominal lesion; Trousseau favorably impressed with this name, used it almost exclusively in the course of his clinical lectures at the Hôtel Dieu. But Bretteau did not confine this term exclusively to typhoid fever, for he considered the Peyerian lesion to be the essence of a large class of fevers.

Symptoms.

To begin with; the stage of invasion in typhoid fever is slow and insidious, it being more gradual than typhoid fever.

The appearance of a person about to be afflicted with typhoid fever, is though languid and

opressed, more free of the duskiness an muddy hue of typhus.
The disease generally greets him with an exceedingly annoying headache, often combined with an occasional feverish flush; he is apathetic, his animal spirits are at an ebb. he is likely to imagine these annoying symptoms, to be of evil portent, the forerunner of some impending calamity.
The fever is often in its early stage, characterized by epistaxis.
Many persons can walk about

not knowing or recognising the existence of the disease; but they may die suddenly from some transient complication.

After these early symptoms, which may last for several days, the disease is established by the occurence of a chill, followed by the ordinary phenomena of fever.

There is a disposition to diarrhoea, which occurs spontaneously, or may be hastened by the administration of an aperient.

As the disease advances the aforementioned symptoms become aggravated, the pulse becomes more

frequent and strong, the skin hot and dry, the tongue is parched, and reddens at the tip and edges; if pressure be exerted in the right iliac region, a gurgling sound may be detected, and the patient will complain of pain; this peculiarity is owing to the involvement of the glands of Peyer. About the end of the second week, if the surface of the abdomen be examined carefully, there may be discovered upon it a number of small red spots, which disappear when pressed, but immediately return upon the pressure being removed; these are the so called rose-colored len- Eruptio

ticular spots, or taches rouges, and constitute a characteristic eruption.

The spots of typhoid fever are not apparent on the cadaver.

As the disease advances, so does the diarrhoea, from three to six stools or even more occurring daily.

Dischar:

The special characteristics of the evacuations are peculiar, and are for the most part distinctive of the disease, they are of a yellowish ochrey color approaching somewhat in resemblance to pea soup.

When during the course of the

fever, these stools continue day after day, amounting to several in number in the twenty-four hours; then with safety it may be inferred, that there is an existing ulceration in the bowels, even though no signs of pain be observed by the patient.

The same conclusion may be arrived at by the hemorrhage, if it be observed in this stage of the disease; to which there is often a great tendency.

According to Trousseau, the characteristic ulcerative eruption, formed at the expense of the aggregate and solitary

Morbid A

glands of Peyer, does not begin to appear until about the fourth or fifth day, and some observers state that it may be delayed as late as the seventh or eighth. It is gradually accomplished in the space of two days, all the glands implicated not becoming affected at the same time; and the eruptive stage being over on about the seventh or eighth day of the disease.

The aggregate glands become much congested and enlarged, both as regards their length and breadth, the

solitary glands project into the intestine, and along with these successive changes taking place in the aggregate, and solitary glands, the mesenteric become involved.
After the glands have reached their height of turgescence, either resolution takes place, or the affection continues, and proceeds through all its stages.
Later the enteric involvement, which had hitherto been simply assumes a somewhat furunculous appearance.
The affected glands become prominent, presenting the

appearance of red conical granulations with depressions on their summits, which increase in size, till they form a core of reddened tissue, stained with an ochre hue by the bile, which at this stage of the disease is very abundant, and has a special tint.

Soon after the core is formed, is detached, leaving behind a deep ulcerated depression, at the bottom of which may be seen the muscular coat of the bowel.

Some five or six ulcerations of this kind may be seen on a single patch of the

aggregate glands, looking somewhat fungoidal in form, making it often difficult to recognise the existence of the gland which is the seat of the ulceration.

After these changes have taken place, the ulcerations begin to appear more superficial, and gradually begin to cicatrise; they ultimately cicatrise, but frequently not till the thirtieth day of the disease.

The intestinal eruption is mostly situated in the lower part of the ileum, and the closer it is to the ileo caecal valve, the more confluent it

becomes.

These spots are formed in the lower intestine, but, rarely if ever, as high up as the duodenum or stomach.

The temperature in typhoid fever has of late been made a special study.

The rise from 98.5° (the normal degree) is gradual, during the first four or five days; reaching 104° on the evening of the latter; sometimes 104.5°. In attack of the disease in which on the second day the heat in the axilla is as high as 104°, is not typhoid fever; and the same exclusion applies

Temperat.

if from the fourth to the eleventh day the temperature falls below 103°.

A difference of 1° or 1.5° between morning and evening (greatest heat, the latter) is usual; the reverse is not a good sign.

The marked tendency to a morning fall and evening rise of temperature is almost pathognomonic of typhoid fever.

Towards the end of the second week, lowering of the heat below 103° is always favorable; persistence at 104°, 105° and 106°, shows a severe case.

Treatme

The value of proper hygienic measures cannot be overated in the treatment of this disease; but by watchful care, the patient must be prevented from exposing himself from the beginning to the end of the disease.
The hygienic precautions are often of more value than the medicines; but of course medicines form one of the principal features of the affection.
Medicines are almost always given for the complications; not generally for the disease itself.
There may be cases of the disease fully aborting, but these are of very infrequent occurence.

It is not known whether the medicines said to abort the disease really abort it or not; it is only a matter of mere supposition; yet there is no doubt but that there are such abortive cases, but it is not very likely that their abortion was due to medication.
Ammonia is often given in typhoid fever, in the same manner as it would be used in typhs-pneumonia, where symptoms of great adynamia exist
In ammonia we have two advantageous peculiarities when employed in the affection; first, its action as a stimulant; and secondly, it posesses marked expectorant powers, thus

last property making it valuable when any lung complication may be present along with the fever. It may be given in the form of aqua ammoniae, ten to thirty drops in water.

In conditions of obstinate hiccough sometimes met with in typhoid fever resulting from irritation of the phrenic nerve; musk has probably given more satisfaction than any other article used for this purpose; and in cases of failure it may have been due to having used an adulteration.

Physicians seem to vary in regards to the amount that should be given; some say that two or three grains

should be given at a time, others hold that the dose is twenty grains; this difference is owing no doubt to the adulteration of the musk.
In Russia sumbul is employed in typhoid fever, when the use of musk is indicated.
Opium is often used in typhoid fever, to relieve pain, and to procure sleep; and in cases of extreme diarrhea it may prevent the perforation of the coats of the intestinal canal.
Opium is also used for the delirium, but in this symptom it must be used very cautiously; its influence must be watched from time to time, and the pupil must be closely

observed; if it is dilated in the delirium, then will there be an indication for the employment of opium in small doses, but if the pupil is contracted then it is necessary to use the agent with great caution.

The delirium of typhoid fever is due to the asthenic condition of the brain, and so the stimulant effect of opium on the cerebrum will be the manner of its beneficial action.

It tones and braces this organ, and puts it in a condition for healthful sleep, which take the place of the delirium, and if diuresis occur, then it may be

known that it has been acting well.
One grain of the sulphate of morphia may be dissolved in an ounce of water and if there be a tendency to sleep the dose of the solution, (one drachm), may be repeated in the same cautious way; but if the delirium be aggravated and becomes more violent, the morphia should be withdrawn, the delirium then very likely depending upon some irritative lesion.
Opium again is very valuable when perforation is thought to have taken place, the physician can come to the highly probable conclusion that this has occurred, by the sudden aggravation of

the pain, and the marked increase of tympanites, rendering it certain that perforation has taken place.

This condition is better combatted by opium, than any other drug, by lessening the peristaltic action of the bowels, and thus lessening the chance of the alvine contents escaping in to the peritoneal cavity. and it also has a tendency to check the inflammatory process.

If peritonitis is suspected, one grain of opium should be given at once, and repeated at intervals of one or two hours; it is remarkable what large

quantities of the drug can be borne in this condition.
The use of hydrate of chloral is by no means of inconsiderable importance in the treatment of this affection.
In typhoid fever there is a preternatural alkalinity of the blood, a larger amount of ammonia is present as one of the products of waste of the tissue thrown out into the blood, rendering it abnormally alkaline; here the chloral entering into combination with the alkali of the blood, may put the patient in a more natural condition rendering the blood less alkaline

just as muriatic acid is given to cure the alkalinity of the blood in this same affection. Constantly in the course of the fever conditions are presented calling for the use of nervines and soothing agents.

Sleep is often found wholly wanting for two or three days, and chloral is given to counteract this condition, and along with this to alter the extreme alkalinity of the blood.

The patient being brought under its influence he awakens feeling really much better than before, no doubt from the alterative effect it brings about in the blood.

One of the most important duties in the treatment of typhoid fever, is the proper administration of alcoholic stimuli; this necessarily requires a great deal of the physicians ready tact, and serious consideration.
When death seems imminent from sheer exhaustion, life appearing to be barely balanced on the scales of chance, with an increasing tendency to yield in favor of the former; then is it that the physician, being prepared, having foreseen the emergency, advances with that revitalizing agent, alcohol

which though it has been the source of much trouble and misfortune, it now fulfills a most important and useful service towards the management of this troublesome affection

But yet with all the advantages offered by the proper employment of so valuable a stimulant, it is too well known that many physicians, necessarily of very humble pretensions, abuse this agent so generously bestowed on man by ever-bountiful nature; they are fully aware of the benefit which accrues from

its judicious use, but, at the same time, either from their non recognizing the importance of a due consideration of the exact conditions in the disease which call for its use, or from ignorance as regards its proper administration to suit these conditions, great harm has no doubt been caused by its injudicious employment.

In typhoid fever we should give alcohol in such amounts, that its stimulating effect may be retained, and its sedative influence got rid of. Patients suffering with this

disease, generally die from weakness of the heart, its sounds growing very low; the auriculo-ventricular valves seem to produce no sound at all, and the aortic sounds are exceedingly weak; these are the great indications for the employment of alcohol. It causes tranquil sleep, in low, and muttering delirium, and when this is brought about it can be thus known whether the alcohol is doing good.

If it is found that the pulse runs from 120, and beyond, and that there is

an inability to get healthful sleep from the perturbed condition of the mind, and there is a liability to pass into coma, or delirium or both; under these circumstances support is necessary. If meat and beef tea can be taken and digested, they should be given; but if the digestion is impeded then alcohol must be given in repeated doses.

The rules in typhoid fever are, that when there is marked feebleness in the hearts action, and the pulse runs to 120 and over that in the

minute, then alcohol should be given in varying quantities as it is required; if it acts beneficially, the tongue will be found to become moist, the hearts action less frequent, and more forcible, with the cessation of coma if it existed.

Alcohol may be given in the dose of one half an ounce every hour, or half-hour; but if the milder ardent spirits do not produce the desired effect, brandy must be used.

The pulse must be noticed,

the effect of each dose of alcohol must be watched. If the patients face is flushed, and the delirium increases, either the alcohol has been given in too large amounts at a dose, or its administration begun too early.
In the very low conditions, alcohol may be given more recklessly, than if it were earlier in the disease.
Compression of the pulse is a very important symptom of the disease, it may be sure, and slow, or easily compressed, its forcing power being really weak; the alcohol

will increase its force.
Port wine is best employed
in typhoid fever from its
astringency.
The stronger wines are better
to employ as stimulants; as
Port, and Sherry, but when
they excite nausea, they had
better be withdrawn, and
Champagne administered for
the soothing effect of the
carbonic acid it contains
An excellent form to give
wine in, is in that of wine
whey; here we have the stim-
ulating action of the wine,
with the nourishment of the
milk; it consists of Sherry

wine Oss to milk Oj.

Turpentine has been much used as a general stimulant in typhoid fever; after the first day, in the latter part of the second week, in which there exists a condition characterized by increased debility, with a sudden parting of the tongue, leaving behind a hard, shiny, glazed appearance of the organ, all this is from the ulceration of Peyers patches.

When the cleaning is made from the middle to the sides of the tongue, the appearance is one to be

considered to betoken that which is going on in some other part; here the turpentine comes in very well, probably by making a coating of albumen on the ulcerated surface, or by contracting the capillaries of the part. Along with the state of the tongue, tympanites is likely to occur, and probably the turpentine helps to expel the flatus.

It should be given in the dose of ten or twenty minims; it is better to give it in the form of an emulsion.

In the intestinal hemorrhage

of typhoid fever, the administration of turpentine is better for arresting the flow of blood, than any other remedy possessed. Hunter says it acts by its astringency, but this cannot be so, yet it does act and only acts as an haemostatic, probably by contracting the capillaries, or by coating the parts with albumen. More reliance can be placed on turpentine, than any other agent for this purpose. There might be some oozing from the ulcerated surfaces of Peyers patches, or a

general flow; in such a condition as this turpentine acts with greater efficacy than any other agent used for the same purpose.

Wm Evans
Baltimore

Fry Henry &
1876

b. accelerated

A

Dissertation

on

[illegible]

by

[illegible]

Lobar Pneumonitis.

Pneumonitis is an inflamation affecting the parenchymatous portion of the lungs, termed by some, catarrhal fever, lung fever, and such names as are suffered to be expressive of the nature and seat of the disease. Anatomists tell us that the parenchyma is composed of tubules; and that these tubules are made up of the different bronchial tubes, air-cells, and the minute ramifications of the pulmonary and

bronchial vessels, lymphatics, and nerves; bound together by areolar fibrous tissue.

The air cells are lined by squamous epithelium characterized by its tenacious consistency, differing from the columnar ciliated Epithelium with less consistency coating the mucous membrane of the bronchi and its ramifications.

The inflammation is either circumscribed, lobular, or lobar. The first may be brought on as the consequence of a

wound, as the accidental prick
ing of the lung with a
broken rib in the operation
of "paracentesis thoracis".
The second is a rare disease,
but upon this point there is
some dispute. Occurs sometimes
as a complication of capillary
bronchitis, from which it has
no absolutely positive signs
distinguishing the two
diseases, and can only rest
in the accompanying
phenomena attending
each disease. The third
is the most common form

of the disease, and is the fact
the subject of our dissertation.
Lobar pneumonia has three
stages, viz.) first the stage
of Engorgement second
the stage of red hepatization
— third the stage of gray
hepatization. In the first
stage the lung is red,
congested or engorged being
heavier than when in health—
is less elastic, floats on
water, but is much more friable
than it would be if not diseased.
This stage of things does
not last long, but is rapid

by succeeded by exudation,—
at which time the air-cells
cease to contain air being
distended with exudation
matter. In this the second
stage, the weight is much
more increased is solid
and friable, closely resembling
liver. In water the lung
sinks, and upon making
a section a fluid red and
thick is seen to exude, and
with close examination
the cut surface has some-
what of a granular look,
being some degree smaller

in their appearances on the lung of the child from that of the adult. At this stage the lung has but little blood. Some of the exudative matter is expectorated, i.e., found in the sputum; it ought to expectorate, but the most of the matter is removed chiefly by absorption.

The increase of weight in this stage is due to some of the solid constituents of the blood being withdrawn. The air cells returning to their normal size, and

resuming again their natural function while the life giving blood from the right ventricle of the heart is allowed to pass freely through the pulmonary artery into the capillary distribution over the air cells— there to be renovated, and passed back by the pulmonary veins and heart to the system, giving new life and strength once more to the latter portion. Should the disease go into the third stage, the red color will soon

disappear owing to the presence of fibrine, and pus - the lungs then becoming mottled with yellow and finally of a greyish yellow. Is now still more friable and less granular, giving out pus upon pressure. It is claimed by some that grey hepatization is not suppuration, but a fatty degeneration; hence pulmonary abscesses are much more common in the child than in the adult. In about one

half of the cases we have pleuritis coincident with pneumonitis on account of the anatomical relations of the parts, and is very properly termed pleuro pneumonia. Emphysema in some few cases, but as a rule this is rare. May have bronchitis along with pneumonitis, but this is also rare, and exceedingly so, save in that portion of the lung already diseased, as there is certainly no tendency to bronchitis pure

pneumonitis. May have double pneumonia, but this is also rare if proper treatment be instituted. The inflammation is usually of more in the right than in the left lung. Occupies the base in about thirty one cases in twenty one in other part. and in children occurs at the apex. The inflammation beginning at some point almost always extends from point to point until the whole of a lobe is involved.

Pure lobular being rare, chil-
lobar is the most common
form. The inflammation at
times spreading rapidly
in some cases, while at
other times and other cases
continuing several days.
Symptoms. In about one
third to one fourth of the
cases in the adult there are
prodromes of three or four
days before onset, but in
majority of cases the
patient has a well marked
chill. In about one fourth
of the children under

two years the prodromes are more general as catarrh of the bronchial tube preceded by bronchitis. The humid cough (which is generally dry), high fever, and pain on inspiration indicate more than bronchitis. Convulsions occurring under these circumstances, we may suspect pneumonia. When the disease comes on without prodromes such symptoms as indicate that the child is not well, as restlessness,

and then showing a disposition to rest - respirations becoming more and more hurried while the nursing is irregular owing to the embarrassment which the child finds in making expirations. Extremities may become cold, while ~~cold~~ the body is yet hot; pulse ranging from 140 to 180. Respirations superficial and from 40 to 80. The child will now seize the nipple with great avidity to satisfy the wants of nature

and becoming tantalized by the difficulty with wich respiration is carried on, turns loose with a contracted brow and countenance pinched, presenting an appearance which, is truly indicative of suffering and anger, blended the one with the other: the anger arising from an ineffectual attempt at gratifying an insatiable thirst. In first stage will find respirations generally feeble, sometimes harsh over the heart; may hear fine sub crepitant rale, but seldom

do we hear the crepitant in small children. At times the expiratory moum will become marked from the involvement of the pleura. In the second stage the dullness on percussion is marked, and the bronchial respiration established. At first is heard generally during expiration but is soon distinct enough to be heard both in inspiration and expiration. It rarely runs into the third stage in grown children. In those of five

or six similar to adults. From two, to two and a half years the onset is generally sudden. Complete anorexia with great thirst. The digestive organs are usually disturbed in these cases with constipation, diarrhoea, vomiting and &c., but as a general rule seldom do we have diarrhoea.
No matter how the disease comes on within forty eight hours the physical signs will be found at the base one lung - often the right, but may occur at the apex of

either lung. Upon the fifth, sixth, or seventh day we may form a prognosis as the crisis will have ~~passed~~ declared itself by this time. After five years we have the crepitant rale, but under five, harsh and sometimes feeble respiration instead, generally preceding the fine subcrepitant rale. In certain cases of pneumonitis the crepitant rale is not heard either in adults or children. Bronchial respiration, bronchophony and [illegible], follow the physical signs usually

during the second week.
The bronchial respiration occur-
ing more especially in expira-
tion on account of the
yellow elastic tissue of the
lungs becoming impaired.
The lungs clear up and the
dullness is less marked — the
coarse sub-crepitant and
mucous rales are heard and
resolution rapidly follows.
Can not diagnose the third
stage unless cavities have
formed. Death often occurs,
should it occur at all before
the third stage is reached.

Heat of skin is a remarkable symptom in all cases of pneumonia. In mild cases temperature seldom goes beyond (104°F). After exudative stage passes, the acuteness of the fever subsides, and this is generally within a week. It always passes into the second stage and sometimes within forty eight hours. The pulse is generally increased and more in the exudative stage than any other. During the first week the pulse is seldom less than

130 and often runs to 140-180.
There is generally a bright
scarlet flush of the cheeks, which
gravally fades into a deeper color.
Inspiratory acts may amount
to sixty or even as high
as eighty per minute.
The expiratory mourn is
a sign of great value. In health
as a rule the pulse is four times
as frequent as respirations,
but in pneumonitis this ratio
is greatly perverted - more
so than in any other disease.
Differences in children and
adults affected with pneumonia

this. Sputa is swallowed by small children — in older is shocked and not of such dark color as in adults. The pain in the child can only be surmised — will generally scream out suddenly and then cut the cry short. In those old enough to talk will often complain of pain in the epigastrium or lumbar region. Nervous symptoms are very frequent as headache, nausea, intolerance of light, vomiting with high fever: or we may have some what of an opposite

condition of things as listlessness or drowsiness. In some cases there is great irritation of the gastro intestinal tract, and the chest which is the seat of trouble may be overlooked. In malarial districts other symptoms may be taken on in addition to the above there being a majority of cases suffering some what of the remittent type. There may be some remittency where there is no malaria, especially asthenic cases, but not so well marked in the latter.

The disease may be heralded in by a chill for first few days. The malarial complication is generally of the remittent type — fever most generally of the quotidian. Nausea, bilious vomiting, icterus appearance of skin, and C, with many other symptoms. Nausea with tenderness over the epigastrium recurring regularly in the afternoon is an important indication of malaria being blended with the disease. Vomiting of bilious matter may be as

cessive. The tongue presenting a greyish yellow look, at first moist, but becomes darker and finally brown in unfavorable cases, with sordes upon the teeth. The skin is yellow, and the sputa may also be colored with the coloring matter of bile. The pneumonia and malaria set in together; or the malaria may be developed afterwards during the course of the pneumonia; or the pneumonia may be intercurrent to the preexisting malaria.

Diagnosis- Pleurisy is rare under

six years compared with pneumonia, besides the pain is more severe as known by children. Pleurisy may exist without pain and often does: in majority of cases pain is so slight as would hardly lead to the suspicion of pleurisy. Changing the position of the child while auscultating and percussing enable us to exclude the disease if the proper signs are not present. Capillary bronchitis may be mistaken for pneumonia, but the physical signs will be very apt to distinguish them; besides the dyspnoea is much greater

in pneumonia. The tubular form of pneumonitis occurring secondary to capillary bronchitis has a fever not so high, but the marked regularity of evening exacerbations which is characteristic of almost all cases of bronchitis. Should auscultate the chest & notice rate of pulse & respiration. Not able to define accurately between tuberculous meningitis and pneumonia for first two or three days, but close attention to all the signs & symptoms after this will enable us to make out the disease. In tuberculous meningitis

the vomiting is much greater. Central pneumonia occurring assumes somewhat of the type of typhoid fever, but in pneumonia the fever is higher than any other disease of childhood. In children old enough to manifest if delirium occurs should examine the lungs, and especially the upper lobe.

Prognosis.—It is rare that death occurs between 15 and 20 years. Mortality very great in the two extremes of life. Under 2 years the danger is very great; & more so, if it is secondary to another disease. The lobar is more

favorable in children than adults.
Mode of treatment has a great
deal to do with prognosis;
besides the influence which the
extent of the disease exerts.
Proportion of deaths is from 2 to
6 times as great in bilateral as
unilateral, and is still greater
when the whole of one lung is in-
volved. Fatality greater in females
than in males, and in the
feeble than in the robust;
and is more fatal when the
right lung is affected than
the left. The printing type
of the disease also influences

the mortality, some Epidemics being much more fatal than others, The time at which treatment is commenced has a great influence, the danger being greater in proportion to the delay, Cauterization sometimes due to exposure, but this is true in very small proportion of cases; but cold and variable weather produced a greater frequency of the disease, and is greater in proportion to the severity of the winter. Is more common in Southern than Northern States, and is

due to variableness of the climate. It exists often as an epidemic, especially upon southern plantations. In some years there is a tendency to attack the upper lobe. There is a peculiar disposition to it in some persons, who are liable to recurrences — these may have it four or five times. Treatment. — Bleeding may do good if properly done and at the right time. Is more effectual if done within the first three days. Is called for in robust constitutions, full pulse, high fever

and great dyspnoea, in the first stage of the disease. It relieves the engorgement of the right side of the heart and to some extent may relieve the inflammation. Local bleedings are often efficient. Under two years local bleedings by cups and leeches ~~[illegible]~~ is best-taking from two to four ounces. Blood-letting inadvisable in the second stage. When bleeding is resorted to always see that sufficient alimentation is secured for patient, or this mode of practice may at time

result in serious injury to the child. When the skin is hot and dry, and pulse of full volume and strength, tartar emetic in small doses every two or three hours, given with the acetate of ammonia or spirits of nitre, but not pushed to produce sickness or nausea. The neutral mixture may also be of great service in abating the symptoms. If tongue is heavily coated, skin tinged, may give calomel in combination with golden

sulphur of antimony, as follows. ℞. Hydrarg: chloridinate gr ij; antimon sulphurat gr j; Pulv. Dover grs iij xj; Sac: alba grs xx ~~m~~. Ft. pilulae No. xij. S: one every 2 or 3 hours. Should avoid purgation in pneumonia. If the lung is still hepatized after the disease is over may give Iodide of Potassium, and if bronchitis is present may continue with it syr. Senega, but avoid purgation from senega as it is sometimes known to act as a purgative.

Counter irritation by mild means should be made use of in connection

with the oil silk jacket, and when the time comes for the removal of this jacket, it should not all be done at once, but by the scissors remove daily some of it, so that the change may not be too sudden. For a child under 2 years Stokes liniment should be used. Veratrum viride may be given if fever is intense, and there is no tendency to asthenia, but is seldom called for and should if used be watched with great caution. Under one year and especially under twelve months ipecac is better than

tartar Emetic. Spts. Nitre may be given with syr. Ipecac. Milk and beef tea should be given throughout the disease. When the acuteness of the fever has subsided pulse becoming soft and showing adynamia; food, stimulants and support is the main resort. When complicated with malaria give Quinine in combination with dover's powder and Spts. Nitre. Quinine sul. gr. ij in two doses four hours apart for a child three or four years old given during the intermission or remission. At the same time

that, the Quinine is given for the malaria the pneumonia requires the usual treatment. Quinine is good in all cases of pneumonia whether complicated with malaria or not. This is a good formula for administering it.

℞. Quiniae Sulph grs. xij – xxiv
Acid Sulphurici gtt. xxii xxxij
Tinct. Doveri gtts xxx
Spt. Aetheri nitrosi ℥ij
Aquae Aurantii flor ℥ xii M.
S. ℥j pro re nata, for making Liq. Doveri.
℞ Morphiae acetat ℥ss
Acid acetici dil ℥ss
Vini Opiae ℥j mix & add
Alcohol dil ℥iijss.

Tartar Emetic is sure in
any malarious disease; and
when we have sufficient reason
to suspect a complication of
malaria the agent should not
be made use of under any
circumstances. If nausea and
vomiting occur do not hesitate
to give a little calomel as it
allays nausea and vomiting
and exerts a favorable influence
over the disease. In the
treatment of this disease we
should bear in mind that
it is impossible to cut short
the disease and that our

little patient will reach the shore in safety however distant, provided we ~~do~~ sustain his strength with sufficient alimentation and do not over-task his system with drugs. The best that the physician can do is to be ever ready to assist at a moment's summons, nature in her mighty efforts to sustain the flagging powers of life, until the little patient has safely passed the tidal wave and is seen once more to rapidly regain his former strength, by which he will

a fine grasp upon the opposite shore is enabled, to bring this rough, and tempestuous voyage to a happy termination.

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R. H. Lennon

'75-'6

Concerning the Physiology of Nutrition.

That "all work implies waste", is one of the primary laws of the science of Physiology. The work of the nervous system & that of the muscles, implies consumption either of their own substance, or of something else. And, as the organism can make nothing, it must possess the means of obtaining for without that which it wants; & we know that in the gross it does these things. The body feeds & excretes. The process of the addition of new & necessary material & the subtraction of the useless & effete are designated "Nutrition", which Dr Dalton terms "Assimilation"

But in the nutrition of organized structures we have something more than the assimilation of Organic Proximate Principles contained in the blood, to living flesh. Over & above all chemical & other dynamical phenomena wh take a part in this process, there is an element, the most important, wh is in no degree explicable by reference to merely dynamical agencies. That element is the morphological element. No kind or auch of force can explain the fact that in its original development & subsequent growth & maintenance, an animal

or plan adhers to definite types or patterns of structure. For we see the most varied types springing up under identically similar conditions. In the development of typical forms we recognize not only the construction force wh does the work, but a direction agency wh determines the plan. The former, the strictly dynamical effects manifested in the development of the organism, are to be explained by reference to an equivalent expenditure of force ab extrinseco; but the determination of the typical form; wh is entirely independent of the amt of

force evoked, is a phenomena of wh
no physical agency can account.
As in works of art, so in development
of organic forms, there is first the
conception of an architectural plan & then
the application of dynamical agencies
for its expression, in a certain sense
the distribution of matter & force may
be said to be the cause of a work of art,
but we cannot overlook the fact, that
an intellectual conception guides the
working powers, & is manifested by
the conformity of the product to
an ideal pattern. Morphological
phenomena then; do not admit of

generalization in terms of physical forces. On the other hand however, they may be generalized with reference to final causes, or the adaptation to useful purposes (the teleological principle) & also with reference to the principle of "conformity to typical patterns". Concerning wh we quote fr the great Agassiz: "The simultaneous existence of the most diversified types under identical circumstances; exhibit thought & ability to adapt a great variety of structures to the most uniform conditions. On the other hand the repetition of similar

types under the most diversified circumstances shows an immaterial connection between them. It exhibits thought, proving directly how completely the Creative mind is independent of an influence of a material world. Natural History, much in good time became an analysis of the thoughts of the Creator as manifested in the animal & vegetable kingdoms" (Agassiz). This then is the only explanation we can give of organic forms, they are not caused by "incident forces acting upon formless colloidal matter"

as Herbert Spencer vainly tries to prove;
but they are inherited, being transmitted
from generation to generation from the first
created ancestral form of each species, & were intended to shew forth some
of the attributes of a beneficent creator;
both by their subservience to useful purposes & by their adaptation to amuse
& gratify the aesthetic faculties of rational creatures. We may however legitimately investigate the conditions under
which the actual constructive work is performed, so far as it involves the operation of dynamical agencies, & is therefore explicable in terms of physical forces.

What we then mean by the term "Nutrition" or "formative force" is the aggregate of the dynamical acts involved in the nutritive process. Leaving the morphological element as each of the question, not being explicable by purely physical methods. In the natural course of life this process is manifested in three modes: which are only three effects of the same forces operating under different conditions, these different effects are (1) Development (2) Growth. (3) Maintenance by nutritive reparation. "Development" is a process by which an organ or part or

inally formed, or by ones imperfectly formed; advances to a higher grade of structure, adapting it to a higher order of function, the change being thus always a change of quality, the volume being increased or diminished indifferently. "Growth" & "Maintenance" are in themselves explanatory terms. When growth is unnaturally increased it is called "Hypertrophy" wh may depend upon the enlargement of the constituent anatomical elements or their multiplication (wh is Hyperplasia). The necessity for maintenance arises from the law of limited duration of

life" for each anatomical element, & perhaps also from the more rapid waste incidental to the functional exercise of the organs. This law is easily noticeable in the hair & teeth, squamous epithelium cells &c, & may be demonstrated in the case of blood disks, bones (Haversian spaces &c) by the microscope. While in muscles & nerves the proof is inferential but conclusive, the products of the oxidation of these tissues being detected in the venous blood returning from them, as kreatine, kreatinine & the urates in case of muscles & cholesterine in the case of nerves.

The conditions of nutrition are fourfold.
(1) Right state & composition of the blood: wh involves its adjustment to the special demands of each part of every tissue to a degree of nicety far exceeding all practised means of chemical synthesis.
(2) A regular & rush fast distribution supply of this blood duly adjusted.
(3) A certain influence of the nervous system, wh is not so much essential as ch is regulative (by the Vasomotor)
(4) A healthy state of the part, wh in its maintenance, is subject to the laws of Assimilation; but this law is more

on has resisted by the law of "analogous formation" wh tends to restore the normal conditions in cases of disease; that neighb attenuation be perpetuated Morphological phenomena are susceptible of generalization in reference to two principles viz: that of adaptation to special uses, & that of conformity to type. All organic forms are constructed according to architectural styles, wh vary to accord with the uses &c wh they are destined to fulfil wh is a legitimate & worthy exercise of a rational intelligence to study these plans of organic architecture such as it is

to analyse & find the ultimate composition of the bodies themselves & the uses to wh they are adapted, as evidences of the goodness, wisdom, & infinite resources of the Divine Architect of the Universe.

In discussing the various changes & transformations wh the Prox' Principles of the body in various forms & combinations undergo in the Great Nutritive Process, we shd be led to consider the different Processes of "Mastication", "Digestion", "Absorption" &c wh comprehensive & tedious as they wd be we have not time or

space to discuss, we will have to pass over them in rapid review.

After the food, (wh according to the "law of limited duration" is designed to become organized & take the place of that wh has performed its function & is excreted) has entered the stomach, that part of it wh consists of the Albuminoid Proximates is always put in a state of ferment by the Catalytic action of the Pepsine there contained & then converted by the Gastric juice into a common Proteid substance, Albumose, into wh they are all converted & from wh the Albuminoids wh we

find in the human organism are differentiated. The inorganic proximate principles & the Hydro-carbons (Dallon's first & second classes), pass thro the stomach & on into the intestines, there to be acted on by the intestinal juices together with the secretion of the pancreatic duck (wh emulsifies the fat) & are acted on by these juices. finally being absorbed by the minute capillaries & lacteals in the projecting villi. The inorganic principles are absorbed unchanged unless they react with chemical substances for wh they have an affinity, & enter into the composition of the blood.

These different principles are now carried by mean of the blood thro' the {liver, spleen, glandulae aggminatae & solitariae, lymph & tonsil glands, & other ductless blood forming glands}, & the {tissues of the body generally}, the first class of glands wh in varying forms consist of a cellular parenchyma held together by Connective tissue proper (a subdivision of Virchow's 2d class) manufacture the material thus supplied into the lowest organized form, the unit for wh or rather with wh all parts of the complicated human structure

is differentiated viz: the white blood cells, Leucocytes, amoeboid in character, a semiplastic mass about $\frac{1}{3200}$ inch in diam: possessing the power of throwing out for itself processes & constantly changing form, (hence amoeboform of low grade of animalcule). these cells are considered by some to be merely bits of protoplasm or bioplasm, & are the physical basis of life. Their analogues are found in the vegetable kingdom (See Huxley on "Physical Basis of life). The liver is supposed by some to convert these leucocytes into red blood cor-

puscles, wh are differentiated to either with much of the constituents of the blood into the various tissues of the human organism. The large size of this organ in early foetal life wd seem to ponder this probable.

We can follow no further the ultimate transformation of the vitalized proximate principles into the complicated & various tissues & structures of the human body. This much we know, however, that the process is regulated & controlled by a special system of nerves, the "Trophic" or "Nutrient" system.

wh have their origin in the multi-
polar cells in the anterior horns
of gray matter in the spinal cord.
this origin having been traced as
high up as the corpora striata.
They are sometimes called the
"chemical system for this action
regulates chemical changes in
nutrition. Efferent fibers as motor
nerves but unlike them they do
not respond to the will. Under
emotional influences however,
these nerves will cause chemical
changes in the composition of va-
rious secretions, the milk of a

woman in a passion has been
changed as to cause serious ill-
ness to the suckling infant.
The section of these nerves does
not cause the death of the part
to which they are distributed, but
its growth & health are interfered
with & the nutrition of the part
is carried on just in the way
a clock will continue to run
when the weight has been
taken from its pendulum.
the general functions still being
continued, but without that
rhythm & regularity, the want

of wh, other things being equal, will much sooner cause paresis & make it from the first less capable of resisting disease &c & performing its duties than the corresponding part.

Departure from the above laws & conditions of Nutrition causes derangement of health & many fatal diseases thus, Consumption, Scrofula &c are essentially diseases brought about by mal-nutrition, tho' we may not always be able to say what condition remained unful

filled. With the cessation of Nutrition we have "death" molecular death when only a part of the organism is affected & Somatic or Corporeal death when the organism as a whole has ceased to be such. & the machine gradually reassumes the forms of its constituent chemical components, & "dust is given back to dust."

Respectfully

R. H. L. Emmons

Candidate for graduation in the Class of '76.

1876

Cases of

Encephaloid Cancer

by

A. H. Chapin.

Cases of Encephaloid Cancer.

Having within the last five years operated a number of times for the removal of this disease, I propose in this paper to give the history of seven of those cases and the result of the operation in each of them.

Encephaloid Cancer or as it is by different authors called fungus haematodes, cerebriform cancer, medullary Sarcoma, soft cancer &c is unfortunately quite fre-

[illegible]ushing the appearance [illegible]
a disorganized mass. about
two months before I saw him
the cornea had given way.
When I saw the case on the
[illegible]th of Oct. 1870, the tumor [illegible]
[illegible]d as I have said the ap-
pearance of a bloody fungous
looking mass. The hemorrh-
ages from it were frequent
and profuse occurring al-
most daily. The patient was pa-
le and emaciated, feeble,
and exhibiting unquestion-
able evidence of the cancer-
ous cachexia - as the patient
was rapidly sinking. [illegible]

and had plunged a lancet in it to "let out the matter" the incision had been followed by profuse hemorrhage which the doctor had found impossible to control, and had left her, after advising her friends to send for me.

I found a large livid lobulated mass of [illegible] tissue including its entire circumference and extending some distance above and below the joint - measuring 36 inches in circumference - in moving the leg a few days before the [illegible] and [illegible] [illegible]

weeks more, and at the end its general health was improving rapidly -

I now saw the case again but Dr Graham who practised in that neighborhood informed me that one year afterwards, while [illegible] apparently in excellent health - she was exposed for several hours to a cold sleety rain - was attacked with Pneumonia that afterward indication of tuberculous deposits were manifest and that she ultimately died of consumption, within the [illegible]

was directly or indirectly the
cause of the lung trouble
I do not pretend to say. but
the attending physician aware
of the fact that I was ap=
prehensive of a return of
the disease, watched the
case closely and is positive
that it was a case of uncom=
plicated Phthisis Pulmonalis

Case third - Alex Warren
aged 50 - case remarkably
similar to the case given
above - same time and pre=
senting same characteristics
as Miss Gard - excepting that

the disease would be frequently prone to return. concluded to put him under the treatments of Arsenic as recommended by Sir Astley Cooper. continued it for several months. desisting only when the constitutional effects of the arsenic became too marked. the patient has to all appearance entirely recovered and at this time, nearly two years after the operation there are no signs of any return of the disease - have [illegible] the continued use of the

binding as previously - bound
from the mastoid process
to the external occipital crest between
the occipital protuberance
and the foramen magnum
being situated so deeply
beneath the muscles and
other structures of the neck
and in the immediate neigh-
borhood of many important
vessels - the operation was a
long and tedious one - and
I doubted seriously whether
he would live until I com=
pleted it - I found it diffi=
[illegible] closely to the [illegible]
of the small [illegible]

of Pharynx - which had appa-
rently to under portion of
the Basilar process. it in=
creased rapidly in size - she
became blind - then Deaf & e-
maciated and died about
four or five months after=
wards

Case No 5. Wm. H. Burns
aged 55 years - had an ulcer
twenty years ago - always
had since then - had pre-
viously generally good health until
two years before W was time
had commenced and [illegible]
[illegible] burning pain - [illegible]

tubulated appearance - general
health which had hitherto
been good commenced failing -
cancerous cachexia advised
Amputation below knee
July 29th 1875. wound healed
by first intention, gave Iron
in form of [illegible]
gtts three times daily - was
out attending to business
in three weeks - continued
the Iron for a month - after
wards gave Arsenic in form
of Fowlers Solution - is now
quite healthy and has
gained twenty pounds since
the operation.

Case No 7. Elijah C. Jordan
aged 40 years. Complained of
[illegible] [illegible] of [illegible] mal-
ady. noticed about a month
previously. extracted on
Oct 10th 1875. general health
[illegible] [illegible] [illegible] [illegible]
had. gave America [illegible]
[illegible] - no indication
yet of a return of the dis-
ease.

A Treatise on
Yellow Fever.
Respectfully Submitted by
J. H. Yount,

Yellow Fever.

This is a specific fever characterized by supra orbital pain, yellowness of the skin, and black vomit. It is a fever of warm climates; an average temperature of about 80° F. continued for several months is necessary for its production, a very high, as well as a low degree of heat will not produce it. It usually makes its appearance during the latter part of summer, or early in autumn. Frost puts a speedy termination to it. Its occurrence is confined within a certain geographical range. Almost all the places it has ever visited are upon the borders of the Atlantic, the Gulf of Mexico, and the Mediterranean sea; and upon the large streams emptying into these. It is unknown in the eastern shores of Africa, and on the Pacific coast. It is a disease of cities

In our own country it must frequently visits New Orleans, Mobile and Charleston occasionly Norfolk, and Baltimore, and has even reached as far north as Boston.
Miasmatic exhalations may cause it to take on symptoms analogous to those of bilious fever; while the effluvia generated by crowds may cause it to assume a typhoid form.
The permanent residents of cities in which it is endemic are much less liable to contract it, than persons who have come from a salubrious climate. It seldom attacks Negros.

Symptoms and Course

An attack of yellow fever usually comes on without any premonitions; but in some cases it is preceded several days by lassitude, anorexia, pain in the head, and chilly sensations. The attack is

declared by a chill after which febrile move-
ment comes on which is usually moderate;
frequently however it is of violent intensity.
During the febrile movement the skin is
hot, and dry; the pulse is quick, respiration
accelerated, the face flushed; the eyes
suffused and injected, and the tongue
is coated with a white fur. Occasionally
the throat becomes so sore, as to render
deglutition difficult. During the first
part there is uneasiness of the stomach,
and after the first day nausea, and vom-
iting supervene. There is a burning pain,
and a feeling of tension, and oppression
in the stomach. Pressure over the region
of the stomach causes severe pain. The
stomach becomes so irritable that it rejects
everything that is taken into it, often soon

its own morbid secretions, when undisturbed. The act of vomiting is often violent, and is attended with extreme distress owing to the irritability of the stomach. Generally there a desire for cold drinks, owing to gastric irritability. The bowels are likely to be constipated. Headache generally refered to the forehead, and eyes is often a prominent symptom. Frequently it is exceedingly violent. F. Pyre Porcher, of Charleston. S.C. declares supraorbital pain, to be a never failing symptom. The countenance of the patient indicates extreme distress, and anxiety. The pains in the back and loins, which usher in the disease continue, and are often so severe, as to extort loud groans from the patient. The eyes become wild and fiery. The mind is usually disturbed,

and delirium is not uncommon. These febrile symptoms continue for a period varying from a few hours, to three or four days without any remission. The duration is longer in mild than in severe cases. Now a second stage of the disease sets in. It is an apparent remission, which is known as the state of calm; but it is a delusive calm. The first patient I ever saw suffering with yellow was in this state; which led me to believe that the horrors of the disease were much exaggerated. He was calm, and cheerful; answered questions asked him deliberately, and said he was getting well. He did not seem terrified by his frightful malady. The following day when I went into the hospital expecting to

see him, I learned that he was dead. The skin becomes soft, and cool; the false natural, respiration easy, and the stomach quiet. In mild cases convalescence often dates from this remission; but most frequently the struggle between life and death is yet to come. This amelioration is not considered comparable to the remission of miasmatic fevers. The disease actually continues unabated, and the febrile symptoms have only disappeared under the failing powers of the system. The continuance of the fever would be a favorable, rather than an unfavorable symptom as it would indicate a greater power of the system to withstand the disease. Tenderness on pressure over the epigastrium, yet remains and yellowness of the skin now [illegible] its

appearance begining first on the forehead and extending over the face, neck, and chest, and ultimately over the whole body. This apparent remission may last only a few hours, or it may continue a day. The third stage now sets in, which is known as the stage of collapse or of secondary fever as the case may be. In the stage of collapse the weakness is extreme. The pulse becomes quick, feeble, and irregular, the skin becomes of yellow or bronzed color; the blood becomes more stagnant in the capillaries, the fingers toes, and dependent parts of the body become of a dark purplish color. The stomach now takes on increased irritability, and everything taken into it is speedily rejected. Soon a matter is vomited which contains

dark flakes diffused in a colorless fluid. The urine is high colored and scanty; occasionly it is almost or quite suppressed. Hemorrhage takes place from various parts of the body, especially from the nose, mouth and uterus and from the eyes. It is often vomited and sometimes passed by stool, or urine and petechiae appear on the skin arising from the extravasation of blood. The patient now ejects the black vomit with considerable force. Sometimes there is a cheerful delirium at this stage and patients have been known betting with each other who could eject the black vomit the farthest. The pulse at length almost ceases; respiration becomes slow, and sighing, the skin when felt is cold, and clammy and large quantities of

black matter is passed by the bowels, which is known as black vomit stools. Low delirium sets in; an extremely offensive odor arises from the body; the eyes become sunken, and death quietly ends the scene. Should secondary fever supervene after the remission, it may terminate in health or fatal exhaustion in a typhoid form which may continue several weeks with an uncertain result. The yellowness of the skin is due to inactivity of the liver. It affects the areolar and adipose tissues and may even affect the bones. The urine is usually tinged with it. The black vomit which is pathognomonic appears in the second or third stage of the disease. It is not invariably present. It consists of blood changed by the acid secretions of the stomach. It may [illegible]

artificially by mixing acid with blood. I had the opportunity of seeing black vomit, when in Charleston S.C. It was thin, of a blackish color and contained a dark sediment. Diving animalcules are found in that which is vomited. The duration of the disease is about a week. Death may take place after two, or three days sickness; often however it does not occur before the tenth day. Morbid appearances

In this as in other fevers signs of inflammation, and congestion are found in various parts of the body. The lungs are occasionally engorged with blood. The bladder and kidneys are often congested. The liver is sometimes engorged with blood but most frequently it is dry, yellow and anaemic. Fatty accumulation in the liver has been observed

Congestion of the brain is quite common. The stomach and bowels usually contain black matter, with which they are sometimes distended. Their mucous coat is reddened, and is often thickened, and softened. Extravasation of blood is frequently found in the various cavities of the body. Yellow fever has a peculiar, and specific cause. Some writers contend that yellow and remittent are identical; that both are generated by marsh miasmata; but they differ from eachother in many striking particulars; yellow fever occurring only in cities near the sea within a certain geographical range; which is not true of billious fever. The contagiousness of yellow fever is a subject which has been much discussed, but it is now generally conceded that it does not spread by contagion. Arguments brought forward

in favor of its noncontagiousness are, its confinement to cities within a certain geographical range; and even when prevailing in cities it is often confined to certain low districts. That in the beginning of epidemics many persons are attacked simultaneously, who could have had no communication with eachother. That when it appears as an epidemic it spreads too rapidly to be diffused by contagion, and that, persons who are attacked with it after they have fled from cities in which it was prevailing do not communicate the disease to others. That frost puts a speedy termination to it; were it diffused by contagion it would subside more slowly. Most writers who have had a familiar acquaintance with the disease; do not think it to be in the least contagious. It is established

conclusively that the disease may be transported by means of fomites, and in the holds of ships. Some hold that the cause is a peculiar miasm arising from the decomposition of organic matter. There are two theories in regard to the manner in which the poison propagates the disease which it does notice. One is that the peculiar poison, generated under favorable conditions is capable of acting as a ferment when it finds a proper soil for it involving a substance like itself. The other supposes the cause to be a living organized being; either vegetable or animal produced from living germs under favorable conditions. The ferment or germs may be transported in ships or clothing and if it has

a proper soil with the requisite temper-
ature it may spread indefinitely. Whatever
the special cause may be, it requires for
its production; a continued high heat of
about 80° F. for several months with much
moisture in the atmosphere, organic mat-
ter in a state of decomposition; vicinity to
the sea, or some large stream emptying
into it: yet it is remarkable that towns on
the Pacific coast with all these requisites
are never visited by this scourge. It frequently
occurs after rainy seasons, freshets, and over
flows. The cause is most active near the
ground; ~~are~~ is more active by night than
by day. The reason for this is explained
quite satisfactorily by our eminent Professor
W. C. A. Aiken. He says the poison emanating
from the earth by day becomes heated by the

rays of the sun, and rises and is diffused throughout the atmosphere, but by night the earth becomes cool, and it no longer rises and accumulates near the ground. This also explains why persons living on ground floors are more liable to be attacked, than persons who occupy the upper stories.

Diagnosis It is difficult if not impossible to discriminate between this and other fevers, during its first stage its initial symptoms, are those in common with other fevers. When the disease has advanced to it's latter stages the diagnosis becomes quite easy. The jaundice yellowness of the skin, and conjunctiva, the injected, and glassy appearance of the eyes, hemorrhages, slowness of pulse, epigastric tenderness, diminished secretions, and

supra orbital pain black stools and black vomit point most convincingly to the disease. During its first stage it is likely to be confounded with bilious fever. During an epidemic of yellow fever in Charleston S.C. I saw two patients suffering with bilious fever, soon after they were attacked. They said that they had yellow fever, and this all the students reading Edmund, and the attending physician did not make a positive diagnosis at the time.

The Prognosis in yellow fever is as unfavorable as possible. The mortality varies from ten to eighty per cent. The average mortality is about forty three per cent. The prognosis is less favorable during the commencement than during

the close of an epidemic. Rigors, severe chills, the appearance of uraemia, a diminution or suppression of urine, streaks of blood in the matter vomited, and high fever, occurring early in the disease are symptoms of grave import. Hemorrhages into the stomach, intestines, and bladder; as denoted by black vomit, black stools, and bloody urine; are most unfavorable symptoms, and are usually the immediate precursors of dissolution. Uraemic symptoms are fatal prognostics. The age and race of the individual; mode of living in a salubrious climate; habits, and temperament, all have a bearing on the prognosis. A slow and regular pulse, a slight elevation of the temperature of

the body; and an unnatural state of the stomach during the first stage of the disease, are favorable symptoms. In no case can a healthy termination be obtained, no matter how well the disease is progressing; as uraemia, hemorrhages, and black vomit occur when they are least expected; and render fatal the prognosis.

More hope is to be entertained from a gradual amendment of the above symptoms, than from a rapid disappearance of them as observation shows their sudden subsidence is very often speedily followed by a fatal termination.

Treatment. In many cases of yellow fever treatment avails nothing, as the patient receives his or her death at the beginning while in other cases, the

disease being very mild tends to recover, without any medication; however there are some cases of intermediate violence in which the chances between life and death are nearly equal and in these appropriate treatment will aid the powers of life a bring about a happy termination. At the present day there is no known specific for the disease, and no known method of cutting it short. Many medicines have been reputed as efficient in aborting the disease but clinical observation has failed to confirm the assertion. Bleeding, Quinine, calomel, and opium have each had their advocates; but a fair trial of them has only proved their utter worthlessness, in cutting short, or or having any curative effect on the disease;

yet they are of great use in subduing the disease, and conducting it through its different stages to a safe termination. Emetics are generally condemned; nevertheless in the very beginning of the disease emetic of ipecacuanha is indicated if the stomach be loaded. In cases where there is unusual intensity of febrile action, with a full tense pulse; bloodletting is called for, but it should be resorted to only early in the disease, and must not be carried too far, as it would increase the prostration during the latter stages. A mercurial cathartic is always indicated. The constipation of the bowels and the inactivity of the liver call for this remedy. It is asserted by many writers that if ptyalism can be produced the patient generally recovers, but it is a

extremely hard to produce it; that most physicians have abandoned the use of mercury with this view. The fever is relieved by nothing more effectually than the external application of cold. This may be effected by means of sponges dipped in cold water, or by affusion. It's use should be continued until the skin becomes cool, and the frequency of the pulse abates; or until the patient begins to feel chilly, when he should be wiped dry, and placed in bed. It should be repeated as often as the symptoms demand it. Occasionally warm water is more agreeable to the patients than cold, and when it is, it should be employed. Refrigerant diaphoretics should be used during the first stage of which the effervescing draughts are the most suitable as they can be taken both in the

moting diaphoresis, and in allaying the irritability of the stomach. For pain in the head, cups, or leeches may be applied to the temples, or nape of the neck. A Dovers powder may be beneficially given if not contraindicated by cerebral symptoms. Iced water and ice itself should be given to the patient as they will be very useful in allaying the gastric irritation. The hair should be removed, and towels dipped in iced water, or bladders containing pounded ice should be applied to the head; while at the same time warm pediluvia should be used as revulsives. The gastric irritability demands effervescing draughts iced water, morphia in small, doses chloroform or creosote. Counter irritation over the stomach by means of sinapisms, cupping, emollient, [illegible] and

stimulating liniments often relieve the gastric distress. During the second stage depleting measures should be suspended, and means should be employed for counteracting the inflammation of the stomach, and supporting the patients strength. For counteracting the inflammation of the stomach the acetate of lead is the best agent that can be employed. Besides relieving inflammation, its astringent properties render it highly useful in preventing hemorrhage into the stomach. One grain may be given hourly until thirty grains are taken or even more if necessary. Large blister should should be applied over the stomach, and blisters to the extremities are valuable, in directing the excitement to the surface. But above all care can should

be taken to sustain the system by mild nutriment. Broths, beef tea, farinaceous drinks and milk should be given to the patient at close intervals. Should the powers of the patient appear to sink ing ferries of stimulants should be administered immediately. The mineral acids, sulphate of quinine, oil of turpentine, wine, carbonate of ammonia, ergot, and strong animal broths; are the best for supporting the vital powers. These should be given in combination with opium. Oil of turpentine combined with laudanum is highly recommended. Hemorrhage into the stomach, and bowels should be treated with proper astringents. Acetate of lead, kino, tannic acid, and nitrate of silver; given combined with opium are most

frequently employed. If prostration be extreme; stimulating frictions should be resorted to as they act beneficially in some cases. Chlorate of potassa freely given has been [illegible] an excellent remedy, during the febrile stage. When the urine becomes scanty, and death from uraemia is apprehended; diuretics, diaphoretics, and hydragogue cathartics; should be administered. The treatment taught by Prof. McSherry is to evacuate the bowels at the commencement of the attack with ten grains of calomel, and to continue its use in grain doses every four hours. When the skin is hot and dry he recommends the application of ice in bladders, and iced water by [illegible] [illegible] for [illegible] distress. In low stages he advises the free use of champagne

with suitable nourishment, [illegible] ventillation, and perfect rest and quitude for the patient. By these measures he cured those persons who were attacked in this city after fleeing from Norfolk during an epidemic and these were the only ones out of a large number, that had fled to this city that survived. His success no doubt depended in part to his attending the [illegible] assiduously, and [illegible], combatting every symptom as they arose, and meeting all their wants precisely at the time when it was necessary.

A Thesis

Variola

M. Whitehill.

1876

Variola, or Small pox.

Perhaps on account of the gravity and loathsomeness of the disease, its contagiousness, the hideous appearance presented by the face, and the offensive odor arising from the patient during some part of its course, render it the most loathsome and repulsive disease, that the practitioner has to contend with. The discovery of vaccination by Jenner towards the end of the eighteenth century has divested it of much of the importance which it had in the

two previous centuries, but still it seems to be the most dreaded of all diseases.

Anatomical Characters — Variola has no known anatomical characters distinct from those connected with the eruption on the skin and mucous membrane. Other morbid appearances are due to complications not peculiar to this disease.

Clinical History — Great differences pertaining to the eruption and other events in the clinical history, in different cases, have induced writers to institute several varieties of the disease.

First, non-inflammatory, in which an absence of the vesicles or pustules take place.

Second: discrete in which the vesicles or pustules are separate or distinct from each other. Cases which partake to some extent of the nature of both, are said to be semi-confluent.

Stage of Invasion. The disease is generally ushered in by a chill; more marked than in the other eruptive fevers.

Fever follows, generally accompanied by more or less perspiration. The latter is apt to continue up to the maturity of the eruption thus distinguishing it from the other eruptive fevers. And is called the primary fever. The temperature of the body is often raised to 104° or 105° [illegible]

thus showing intense fever. Nausea and vomiting are apt to occur. The Tongue becomes coated. The Epigastrium becomes painful and is tender on pressure. Bowels generally constipated. Cephalalgia. pain in the limbs and loins. The latter often marked and possesses diagnostic importance. Delirium is an occasional symptom. This stage lasts about two days. The Eruption begins on 3rd day with some exceptions. If the eruption appears on the 2nd day, it may be expected to be confluent. And in proportion as the eruption is protracted in its appearance beyond 3rd day mildness of the disease is to be expected.

Stage of Eruption. The eruption generally appears first about the lips and chin. And nearly at the same time on the neck & breast, then on the body and last on the lower extremities. Occupying in its diffusion about from one to three days. At first it appears in the form of small red spots or specks. It is then a macular eruption. The central parts of the maculae becomes hard & elevated and pointed, thus becoming a papulae. Next the cuticle at the apices of the papulae becomes elevated by a drop of liquid. The papulae now becomes a vesiculae. This change occupying about twenty four

hours from first appearance of Eruption.
On the fifth day of the Eruption the vesicles
have acquired nearly their full develop-
ment, measuring from 1/8 to 1/4 inch in diameter,
and are raised about 1/12 to 1/24 of an inch above
the level of the skin. Some of the vesicles are
depressed in the centre, are are said to be um-
bilicated, This is observed in no eruption but
small pox. The vesicles are multilocular, con-
taining fifteen or more cells, filled with an opalescent
serum. I have thus given the history of the
Eruption up to the period when the vesicles
reach their full development if the eruption
be discrete. In the confluent form the ves-
icles have not the determinate form of those

in the discrete variety, but run together and coalesce to a greater or less extent: And at the end of the full developement of the vesicles, the face and other parts are covered with patches in which the cuticle is uniformly raised, resembling a blister. After the full developement of the vesicles, another important change takes place, in which the vesicles become pustules, or suppuration takes place. The central depression of the vesicles is lost, and the cells become broken up. Simultaneously with the appearance of the eruption on the cutaneous surface, it may be observed on the mucous surface, especially on the tongue

and soft palate in the form of round opaque
spots caused by a deposit of lymph. They are
also liable to come on the conjunctiva, and
may lead to ulceration of the cornea and
destruction of the eye. A striking and
highly diagnostic feature of smallpox
is the cessation or notable remission of fever
on the appearance of the eruption. The
pulse and the heat of the skin, are but little
above that of health. In the confluent variety
this feature is less marked. The fever gradually
diminished as the eruption progresses.

Stage of Suppuration. The commencement
of this stage, about the sixth day of the
eruption, is followed by a notable in-

of fever constituting the secondary or suppurative fever. The pulse is accelerated, and the temperature is increased especially in the evening. The perspiration cease. The fever continues three or four days in mild cases; longer in the confluent variety. The fever is symptomatic of the affection of the skin, and is intense in proportion to the cutaneous inflammation. Tumefaction of the face occurs and is often considerable. Swelling of the hands and feet also takes place. The swelling of the face and extremities belongs to the natural history of the disease and if wanting denote danger. Salivation is apt to occur, depending on the eruption in

the fauces. Various ataxic symptoms are apt to occur as delirium, subsultus, carphologia and coma vigil; denoting great danger. The duration of the stage of Eruption is about four or five days.

Stage of Dessication.— This commences about the twelfth day of the disease. The tumefaction and redness of the skin diminish. The pustules break and the pus concretes into a thick scab. In the confluent variety in severe cases, the whole face is covered as if by a mask. And a great part of the body may present a similar aspect, and exhale a sickening odor characteristic of the disease. In mild cases this is the stage of convalescence. The

scabs fall off, leaving the skin un-
broken, but presenting a discoloration
which continues a long time. In some
mild cases no trace of the Eruption is left,
but in the majority circular cicatri-
ces are left, which are known as pit-
ting or "pock marks". The duration of
this Stage is from six to ten days. Thus
making the duration of the disease ending
in recovery, from seventeen to twenty four
days. Various complications are liable to
occur in the course of the disease, Most of
these being dependent upon the Eruption
in the various mucous passages, and are
denoted by the same symptoms which mar

acterize them, some of idiopathic origin. Hemorrhage in various situations also occurs in a certain proportion of cases.

Albuminuria is not of infrequent occurrence in severe cases.

Causation. Small pox is a highly contagious disease. It may be communicated by means of a virus, that is by inoculation, and by a miasm emanating from the body. It is therefore propagated both by contagion and infection. It is readily transported by means of fomites, which may retain the virus for months and even years. Very transient exposure often suffices for the production of

the disease. And is not unfrequently contracted, by passing in the street, or meeting in a public conveyance persons, who either are, or recently have been affected with the disease. The disease is generally supposed to be communicable in all its stages; but is undoubtedly most so, during the stage of suppuration, and desiccation. The duration of the stage of incubation, is about twelve or fourteen days.

Diagnosis.— The diagnosis of small pox, is not difficult after the eruption is fully manifested. Before the vesicles are distinct in the early period of the

stage of Eruption it is not so easy to determine the character of the Eruption. Vesicles should be looked for, not their umbilicated appearance which is almost pathognomonic. The distinctive character of the papules as determined by the touch, is also to be borne in mind; being granular hard and deep seated, feeling like shot under the skin. The prominence of lumbar pain and vomiting, and especially the cessation or remission of febrile movement at the time of the appearance of the eruption are important diagnostic features. The round whitish or ashy spots are generally apparent as soon as, or even before the cuta

mous eruption, and should be taken
into account. The diagnosis cannot be
made with positiveness prior to the stage
of eruption. Pain in the loins, with febrile
movement, taken in connection with the ab-
sence of symptoms which characterize the
access of other eruptive fevers, should
excite strong suspicion of small pox, espe-
cially if the patient be not protected
by vaccination, or by having once had
the disease. When the eruption first appears
the differential diagnosis lies between
Rubeola & Scarlatina. In rubeola the
schneiderian membrane and air passages
and in scarlatina, the fauces are

prominently and early affected. In rubeola the stage of invasion is longer, and in scarlatina shorter than in variola, and in neither does the febrile movement much decrease before the eruption appears.

The diagnosis should be made as early as possible, to prevent the diffusion of the disease before its character is ascertained.

Prognosis.– Unmodified small pox is attended with much danger to life. The ratio of fatal cases being as one to three or four. The mortality is greater in the confluent than the discrete form. It is especially fatal in early life, and old age. [illegible]

is sometimes due to the intensity of the disease process, and sometimes to the various complications which are liable to occur.

Treatment— The treatment of small pox embraces both local and general measures. The general treatment is the same, as in the other essential fevers. The disease will run its course, and hence the great blame is to be pursued. Fever may be lessened during the stages of invasion, by cold drinks, as, ice water, lemonade, carbonated water, by sponging the surface of the body with cold or tepid water. Constipation should be removed by mild laxatives, or simple

Enemas. (4) Remedies to relieve nausea & vomiting, and cephalalgia, are frequently indicated in this stage. The sulphites have been recommended in this, as in the other essential fevers, as Sulphite of Sodium in from 20 to 30 grs doses every third or fourth hour. During the stage of eruption before suppuration, palliative measures are indicated, by nausea and vomiting, restlessness, dryness etc. The mineral acids are also useful in this as in other fevers. Alimentation and supporting measures are important in this stage, also in the stage of suppuration. Alcoholic stimulants, and tonic remedies, with concentrated nourishment.

are indicated as in the other essential forms. All hygienic measures should be strictly attended to. The local measures, embrace measures under the eruption abortive on the face, or to prevent pitting. The treatment for the end, as called eclectic. Various measures have been tried for this end, among which are the following:—

The careful evacuation of the vesicles by cauterization with a stick of nitrate of silver. The application of the tincture of iodine, once or twice daily, while the eruption is papular. The exclusion of light and air, by covering the face with a plaster of some kind. The

application of poultices on the face as the linseed meal poultice. Collodion applied by means of a brush once or twice daily. All are more or less highly recommended. Evaporating lotions to abate heat. Antiseptics, and absorbent powders during the suppuration stage are indicated. Compresses wet with iced water should be applied to the eyes to prevent the eruption or its inflammation. To prevent diffusion patients should be free from scabs, and have gone through thorough ablutions before going abroad. All articles of clothing should be burned. Fumigations as a means of destroying the disease, should not be relied on.

Baltimore Md. 1916

An

Inaugural Dissertation.

On

Irritation.

Submitted to the examination of the

Provost, Regents, & Faculty of Physic,

of the

University of Maryland,

for the

Degree of Doctor of medicine.

by

L. L. W. Tall

Gentlemen

As it is a requirement, that each candidate for graduation, shall present to you a Thesis of his own composition, written upon some medical subject, I shall endeavor to fulfil such requirments by writting what I know of Irritation.

You all know well that it is not probable any of us will present new ideas in our Thesis, for I will assure you, that what I am about to present to you now, has been gathered from my knowledge of your instructive lectures, and from my text-books. Hoping this inferior Thesis may meet your approval.

I remain Respt.

L. L. W. Tall

Irritation being the foundation of all surgery, we should carefully study and understand it, before we can undertake to practice that; science creditably to ourselves or with benefit to our patients. The Doctrine of irritation shows the effects of injuries, the way that nature manifests them on the one hand, and on the other the means by which apparently slight accidents are often fatal. In a healthy state, all the actions of the body are sustained by stimulants, as the blood to the vessels, is heat in some means to the

whole system, and the bile to the intestines, and there exist between all parts of the body intimate relations corresponding to each other carrying on intimate and reciprocal intercourse of action, this is called sympathy, the real nature of which is unknown, but many of its effects are made evident to us, as in sneezing, which is a sympathetic action between the nose and velum palati, and abdominal muscles, But sympathetic effects also exist in injuries or diseases and become the cause of

restoration on the one hand,
and of destruction on the
other, and this state is called
irritation. Irritation may be
defined to be an altered
action excited in the body
by an unnatural impression.
Irritation of sensation. Irritation
sometimes produces only
diseased sensation, as when
pain is experienced in
the knee often due to
a disease of the hip, when
a person has a stone in
the bladder pain is felt
in the extremity of the penis,
when a calculi is passing

through the ureter pain is felt in the thigh, and the testicle is retracted. Disease of the uterus occasions pain in the loins around the hips and sometimes weakness of the inferior extremities, nearly amounting to paralyse's, Pain and heat in the throat arises from a morbid state of the pylorus. Pain between the shoulders from affections of the Liver, and pain in the loins from inflammation of the testicles, and violent palpitation of the heart ~~are~~ are sometimes produced by a morbid state of the

stomach; sometimes the sympathetic affection, is left even after the other primary cause are relieved and we are obliged to use medicines to relieve this affection.
But irritation not only, cause diseased sensations, but, morbid actions excited in other parts, which are ~~nearly~~ intimately connected or in other parts more distant. Thus inflammation is produced in the testicles from inflammation or rather irritation simply in the urethra. the diaphragm is sometimes

thrown in violent action from gangrene of the most remote parts. The stomach seems to sympathise most readily with irritations of other organs. Vomiting is produced when the testicles are injured, when the intestines are wounded or strangulated from a stone passing the biliary ducts. In general irritation is communicated through the medium of the nerves, of which; there are two systems in the human body. The brain spinal marrow and their nerves are the first- which

naturally conveys sensation and volition. The second consisting of the grand sympathetic, the centre of which is behind the stomach in the semilunar ganglion and solar plexus. The modes of the sympathetic communication are various. In some instances, the course of irritation is from the irritated part to the sensient extremities of the nerves, as in pain experience in the knee or foot in disease of the hip, Injuries of the brain produces vomiting. Their influence being carried to the stomach

through the Eight pair of nerves.
In other cases the pain is
from the affected extremity
to the origin of the nerve,
occasionally the sympathetic
communication is through the
brain, as in the following case.
"A person suffering severely from a
a decayed tooth was also affected
with Hemiplegia; the tooth was
extracted, when the pain and par-
-alytic affection entirely subsided."
Irritation of the nerves of
the great sympathetic is com
municated to the stomach,
probably, through the medium
of the semilunar ganglion;

and vomiting is directly produced also in strangulated hernia, also when the biliary or urinary calculi respectively, are passing their ducts; The other system of nerves as the brain, spinal marrow, &c. are less affected when the injuries are fatal, the patient appears quite collected until nearly to the last moment, Irritation is either local or general, sometimes it is local only. thus a decayed tooth will sometimes produce an abscess and the matter escapes by forming an

opening through the cheek.
In these cases the abscess
in general will be cured
by the removal of the cause.
General irritation may
be illustrated by the
following instance a man
may have a bougie intro-
duced for the first time,
the urethra is irritated by
it, he complains of a feel-
ing of faintness becomes
sick looks pale, and if we
are not careful he drops
at our feet; his pulse
has nearly ceased and
he is covered with

a cold perspiration, we
place him on a sofa with
his head a little lower than
his body. and so soon as
circulation in the brain
is restored, all his natural
functions are restored.
Thus by irritating the urethra
the stomach is affected,
The action of the heart is
suspended and the powers
of mind banish. Fever
is excited by irritation
and a paralytic state of
some part of the body is
not an unusual consequence,
a child sometimes loses

the use of one arm, or one leg, or sometimes of both legs in this case by determination of blood to the head, a slight injury of the stomach, although it does not produce any sensible organic change will sometimes destroy life.
A man recovering from a fever quarrelled with his wife and he received a blow upon the region of his stomach causing almost instantaneous death, no morbid change could be discovered after death,

by dissection usual symptoms
of general irritation, but
exemplified in compound
fracture; a person received
an injury in one of
his legs. occasioning a
compound fracture of one
or both bones, consequently
irritation soon commenced,
he first complain of uneasy
sensation in the loins as
if from an uneasy position;
this extends to the back
in the cause of the spinal
marrow to the brain, caus-
ing pain in the head,
he was restless his countenance,

expressed anxiety, the tongue at first was covered with whitish fur, but as irritation increased it becomes yellow, and in an aggravated state it has a dark brown coating, loss of appetite, nausea, and vomiting, with gastric derangement, stools white from diminished secretion of the liver, and sometimes a fluid is produced which differs from bile in appearance, the secretion of the intestines are vitiated and diminished, the urine scanty and high colored.

The skin is hot and dry, and a diminition of secretion with these symptoms. The pulse quickens, becomes hard, irregular and intermittant, corresponding alteration takes place in respiration, it being at first much quickened and finally hurried and laborious the functions of the brain, and spinal marrow, become further changed, the slightest impression becomes almost intolerable, a stultus torpidinum is produced, and finally the patient sinks

into a low muttering delir-
ium. The grand sympathetic
becomes further affected, the
abdomen becomes distended
by flatus accumulated
in the intestines, vomiting,
and purging, both comes
on, also fever, and at
last the patient weare
out by irritation and
expires. This is constitu-
tional irritation and it
appears to be produced
in the following way,
when any part of the
body is injured, the nerves
conveys a knowledge of it

to the important organs, as the brain, spinal marrow, heart and stomach immediately sets about resisting it by stopping all the secretions, thus the various outlets of the body being closed. The blood is thrown back in large quantities on the heart and large vessels which propel it with great force to the injured part, thus giveing rise to inflammation in what form can best accomplish the part effected. This illustrate the way in

which nature contends for a cure, her efforts sometimes require to be checked and sometimes aided and we must be cautious, however, how we interfere. The danger of constitutional irritation resulting from injuries dependent ~~on. the~~ on the importance of the part injured, a blow on the abdomen by which one of the intestines are wounded, renders the pulse scarcely perceptible at the wrist; covers the body with a cold perspiration and causes, death in twelve or fourteen hours

2nd. The extent of injury.
Thus in important organs
to the extent of the injury
as a corresponding compar-
-sion to simple fracture.
3rd The nature of an injury
as in wounds, if a wound
be a simple incision it
early heals, but when a
contused wound the parts
must slough ere the injury
can be cured. Punctured
wounds also by their
influence on the nervous
system, frequently produce
tetanus. 4th The difficulty
of restoration of an injured

part- as wounds of ligaments, tendons, fascia, or cartilage, and parts possessing, but little vital powers, as in wounds, and diseases of the joints. 5th The state of the constitution at the time the injury is received, this varies at different periods of life; and is modified by the patient mode of living, and climate, in which he lives. Excessive irritation sometimes follows operation on young persons, but hardly those who are advanced in years, & have not of children

after having undergone at a very early age, an operation for Lithotomy, to die of convulsions. In infancy the irritibility is excessive; and the system early excited to distruction, after two years the irritability is considerable, but the powers of restoration great; in middle age, the irritability is ~~but~~ less and the restoration powers still considerable, in the aged, the irritability is much diminished; but the restoration is less also vicissitudes of rest and

diet predisposes to irritation,
the temperate man suffers
but little from an injury,
that would produce the
most distressing symptoms
in an intemperate man.
Persons who are addicted
to stimulants, in large
quantities have the natural
powers so weakened,
that they are not sufficient
to restore them from injury,
a portion of their usual
stimulant is required to
produce a proper action,
for repairing the injured
part. In two cases, atte-

amputation, a high degree of constitutional irritation was induced and with sloughing of the stumps, and it could only be allayed by allowing a small portion of this accustomed stimuli.
An opposition to this a case may be related of a woman servant, crossing the street, fell upon the car track. the car having passed over her arm just below the elbow, producing a compound fracture of both

bones, just below the elbow, the integuments were much lacerated, and an extensive wound communicated with the joint; and the patient refused to submit to an amputation, and the limb was dressed by a Surgeon, who was surprised to witness the speedy recovery of the woman without any bad symptoms. Thus an injury, which in one person will produce little constitution effect would on another occasion produce

most violent and distressing effects, and the same may be said of the same person at different periods of life, or at any time, his constitution is in a different state, it is on account of the constitution being in an irritable state from long continuance in a diseasing department; that wounds there received, generally produce such distressing constitutional effects.

Treatment of Irritation, in the Treatment of Irritation we have three chief indications; 1st to remove the exciting cause, 2nd

to correct the secretions, and 3rd. to palliate the disease; to meet the first indication is not always an easy task. the cause at times is quite apparent, and again; it is utterly impossible for us to find it out; Should the cause be apparent, the proper course is to remove the cause, a splinter of wood, a Ball, a decayed tooth, are promptly extracted, Indigesti- ble Substance from the Stomach by Emetics, Worms from the bowels, by Anthelmintics; an abscess lanced, Should the cause not be evident, we should examine the different secretions,

and restore them to as healthy condition as possible, in correcting the secretions; it will depend, altogether on what organ or organs are effected, the Stomach, Bowels, Uterus, &c; should receive our attentions; purgative medicines, are those chiefly indicated. Irritation of the spine, by reflex action, often produces distressing symptoms, here counter irritation should be employed - the last indication to relieve or cure the disease, here every case should be treated according to its own peculiar treatment.

Inaugural Thesis on the Physiology of Human Digestion

by R. Cleveland Fox —

Respectfully submitted to the Provost, Regents and Faculty of the University of Maryland School of Medicine

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Digestion is that process by which food, when taken into the alimentary canal, is prepared for assimilation to the various structures of the body.

It is the chief of the organic functions concerned in sustaining life.

The process of digestion is more or less complicated in the [illegible] and notwithstanding this complexity,

all the organs work together so harmonious-
-ly, that we experience no inconvenience. And
it is only in consequence of the repeated [illegible]
of the natural laws, that we suffer the
pangs of indigestion and its attendant
evils.

"No sooner," says Lewes "do we become ac-
-quainted with this complexity, than our
surprise is not that many of us, impru-
-dent and reckless as we are, should suffer
from derangements of that function, but
that any of us should continue to perform
it with success since [illegible]."

In every living organism there is an
unceasing waste of tissue. We cannot
move a limb, nor think a thought without
this consequent destruction, and [illegible]

that the various organs may not lose their functional activity, there must be a corresponding repair.

Not only is it necessary that the wear and tear of tissue be compensated for, but at the same time, a material must be kept at its proper standard. To accomplish these purposes, the food must contain all the elements of which the various tissues are composed.

Food may be classified under the following heads; 1. The aqueous; 2. The saccharine; 3. The oily or oleaginous; 4. The albuminous; 5. The saline.

Milk is the only article of animal food which contains all these elements, and

is therefore considered as nature's perfect type of food.

We will now consider the different acts of digestion, and also the various organs and fluids by which it is performed.

"We can not consider," says Paley, "but with gratitude how happy it is that our vital motions are involuntary." If these movements depended upon our bidding, our time would be so [illegible] [illegible] [illegible] [illegible] a time for bus[illegible] [illegible]

its hundred [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] view these wondrous workings, and many of us, as [illegible] know nothing of the [illegible] upon which our existence depends.

The acts of digestion may be classified as follows: 1 The prehension of food. 2. [illegible]; 3. [illegible]; Deglutition [illegible] 5. [illegible] [illegible]fication; 7. [illegible].

The act of prehension [illegible] animals; according to their various habits. In some; as the giraffe [illegible] [illegible] prehension [illegible]

The [illegible] is [illegible] [illegible] [illegible] [illegible] [illegible]

In birds of prey the bill is the organ of prehension, and is especially adapted to seizing animals and tearing to pieces their flesh.

Man, and many of the lower animals, employ the hands in a [illegible] the mouth, [illegible], and to some [illegible] the tongue.

Prehension [illegible] does not seem to be an act of digestion, only a preliminary one.

Mastication is [illegible] in the process of digestion. Its object is to reduce the food to such a [illegible], that it may be [illegible] by the digestive fluids. It is performed in the cavity of the mouth, by the teeth.

The molars, by their broad bases, form admirable means for disintegrating the alimentary mass. This is a most important act. It has been said that "food well chewed is half digested."

If the food be not properly masticated an extra amount of labor is required of the stomach, which tends to [illegible] that important [illegible].

Americans are particularly [illegible] [illegible] and [illegible] fact that dyspepsia is so prevalent among them. [illegible] [illegible] [illegible] [illegible].

Insalivation is effected by the combined secretion of the parotid, submaxillary, sublingual, and buccal glands.

The saliva acts both mechanically and chemically.

The secretion from the parotid and sub lingual glands, is a limpid, colorless, and alkaline fluid, which saturates the food, and that from the submaxillary, on account of its viscidity, facilitates its passage into the pharynx.

It chemically acts upon amylaceous or starchy substances, converting them first into dextrine, and then into sugar.

The combined secretion of the salivary glands is, a colorless, inodorous, and tasteless fluid, has a decided alkaline reaction, which is due to the basic phosphate of soda. During, and immediately after meals, its alkalinity is

greatest. Its active principle is pt[illegible]
which closely resembles casein and albumen.
It contains also sulpho=cyanide of potassium.
It has been estimated that about forty eight
ounces of saliva are secreted daily by an
adult, but this amount is only approximative.
Its secretion may be promoted by acid
or aromatic substances, and also by dry
food. The use of soft and moist substances, cause a scanty secretion.
Any movement of the lower [illegible] and
even the sight of food, will sometimes
cause it to flow freely, as in those [illegible]
which bring the water into the mouth.
The saliva flows most freely from the
parotid gland on the side [illegible]

active during mastication.

Deglutition is the act by which the food is transferred from the mouth into the stomach.

It is fixed thrown back into the pharynx by the tongue. Its passage into the nostrils being prevented by the soft palate which is thrown backwards, dividing the pharynx into two cavities.

The food is now grasped by the constrictor muscles of the pharynx and conveyed into the oesophagus, thence by the peristaltic action of the oesophagal walls into the stomach.

The pharynx is a muscular sac, about four and a [illegible] inches in length extending from the [illegible] [illegible]

the occipital bone to the oesophagus.
It is lined by a mucous membrane.
There are seven openings communicating with it; the posterior nares, and Eustachian tubes above; the larynx and oesophagus below; the mouth in front.

The oesophagus is a muscular canal, extending from the fifth cervical vertebra to the stomach. It is the continuation of the pharynx, and is about nine inches in length. It is lined by a mucous membrane. The fibres of the muscular coat are arranged in a longitudinal and a circular manner.

The arrangement of these fibres, causes it to exercise the peristaltic action, by means of which, the food is carried into the stomach

The larynx though not concerned in the process of digestion, but owing to its proximity to the digestive tract, is worthy to be mentioned in this connection. It stands in front of the oesophagus, and at the head of the windpipe. Its orifice is guarded by the epiglottis, a leaf like cartilage. Its usual position is erect to allow of the passage of air into the lungs. But during the act of deglutition, it is by the perfect closure of the glottis by this little cartilage that foreign substances are prevented from entering the windpipe.

When we view this wonderful mechanism, and reflect upon the frequency of the acts of breathing and swallowing without

any accident occurring we can not but exclaim with the poet,

"How complicate how wonderful is man"!

Chymification is performed in the stomach.
It is the action of the gastric [illegible]

The human stomach is an [illegible] organ shaped somewhat like a bagpipe.
It has a greater and a lesser curvature, and two orifices. The cardiac orifice, is that through which the oesophagus enters the pyloric, is the [illegible] to the duodenum.

The stomach has four coats; viz; an external or peritoneal, a muscular, a submucous and a mucous.

The peritoneal coat surrounds the organ and retains it in position, and at the same time, permits the necessary [illegible]

The fibres of the muscular coat are arranged in a longitudinal, circular and oblique direction.

The alternate relaxation and contraction of these fibres give to the stomach the peculiar churning motion which Beaumont has described.

This motion agitates and desintegrates the mass and brings all parts of it in contact with the gastric juice.

When the stomach is empty the mucous membrane lies in numerous irregular folds. If this membrane be washed so as to remove all mucous from its surface, numerous pits or depressions may be seen with the naked eye but more distinctly with a lens. Leading from these depressions

=scope may be seen the orifices of numerous tubes, known as the gastric tubes or follicles. Those at the pyloric extremity of the stomach, are supposed to secrete simply mucus, while at the bottom of the follicles in other parts are numerous rounded cells, which secrete the organic ferment principle of the gastric juice termed pepsine.

When the food enters the stomach, the mucous membrane changes from a pale pink, to a bright rose color, and the gastric juice may be seen to flow freely from its walls.

The gastric juice is a faint amber colored fluid of a decided acid re=action. Its acidity is supposed to be due to both hydrochloric and lactic

acids. The amount secreted is variously stated, and is dependent upon various circumstances and conditions. The average daily quantity is about sixteen pounds. It secretion may be retarded by mental emotions, and also by a febrile condition of the system.

It has a special action upon albuminoid substances, converting them into albuminose or peptones, which, in this condition, are absorbed by the capillaries of the stomach and intestines to form the radicles of the portal vein. The gastric juice is not sufficient in quantity to digest all the albuminoid substances, but these are digested after they are converted into peptones, by the pancreatic

and other juices. Albuminose differs from albumen in that it is not coagulable by heat. It also interferes with Trommer's test for sugar.

The solvent action of the gastric juice was first demonstrated by Beaumont, in his experiments upon Alexis St. Martin, by introducing into the stomach, hollow silver balls, perforated in several places, and filled with meat. When they were withdrawn the meat was found to be completely digested.

The reason the gastric juice does not digest the coats of the stomach, is supposed to be owing to the epithelial covering of the mucous membrane. This epithelial covering is reproduced as fast as it is

destroyed. If it were removed the coat would be readily acted upon.

The temperature of the gastric juice, according to Beaumont is about 100°F. Bedder and Schmidt assert that freezing does not interfere with its action, while others claim, that if the temperature be lower than 100°F, digestion can not properly be performed until the natural temperature is restored.

The time for the complete digestion of a meal, is from two to four hours, but this of course is dependent upon the nature of the food.

The stomach is a very dilatable organ. [illegible]

and, about four or five inches, in its ver-
-tical. It contains about five pints.
The course which the food takes after en-
-tering the stomach, has been variously
described by different authors, [illegible] as
Beaumont professes to have seen these
[illegible] experiments upon
Alexis St. Martin [illegible]
[illegible] describing
them. The food, [illegible] entering the stom-
ach [illegible] the cardiac end turns to the
left, descends [illegible] the splenic [illegible]
and follows the great curvature towards
the pyloric end. It then [illegible]
[illegible] curvature,
and makes its appearance [illegible]
the cardiac aperture, [illegible]

into the greater curvature to perform similar revolutions. These revolutions are effected in from one to three minutes.

Chylification is the conversion of chyme into chyle. This is accomplished in the intestinal canal, by the action of the bile, pancreatic and intestinal juices.

The intestinal canal is about thirty or thirty five feet in length, or about sixtimes the height of man.

It is composed of the small and large intestines, each of which has four coats corresponding with those of the stomach, with the exception of the [illegible] of the bile, of the muscular coat, and some [illegible]

of the mucous membrane.

The fibres of the muscular coat are arranged in a longitudinal and circular manner. The alternate relaxation and contraction of these fibres, produce a vermicular or peristaltic motion which carries the contents of the intestinal tract downward.

The small intestine is divided into three parts, viz., duodenum, jejunum and ileum. Its mucous membrane presents a very beautiful velvety appearance, owing to the [illegible] covering its surface. It also has [illegible] foldings of the mucous membrane, called valvulae [illegible] which afford a great extent of surface for the

odor of the faeces may be due to the [illegible] secretion.

The bile is the [illegible] of the fluids with which the chyme comes in contact. It is of a yellowish brown color, and is faintly alkaline or neutral. It contains two salts; the glycocholate and the tauro cholate of soda. Biliverdine is its coloring principle.

Bile is secreted by the liver, and is emptied into the duodenum, through the ductus communis choledochus, in company with the pancreatic juice. The function of the bile is not definitely known. It is supposed to assist in the digestion of fats, and in promoting their absorption.

It is necessary to health and life, that the bile pass through the alimentary canal. If it be carried into the stomach it impedes digestion. It prevents putrefaction. Flatulent dyspepsia is the result of a feeble secretion of bile. As there is very little bile excreted it probably undergoes some change in the intestinal canal, and is reabsorbed. If the bile is allowed to accumulate in the blood, jaundice results: There are about three pounds secreted daily.

The pancreatic juice is a clear odorless, and [illegible] of an alkaline reaction. It has an especial action upon fats converting them

into an emulsion, and are thus ab-
-sorbed. Probably the albuminoid substan-
ces which have not been acted upon
by the gastric juice, are changed into
peptones by the pancreatic juice. It also acts
upon starchy matters, converting
them into sugar. Pancreatic juice is
active principle.

The intestinal juice is the last of
the digestive fluids. It is secreted
by the various glands of the small
intestine. It is a colorless, ropy, and
viscid fluid of an alkaline reaction.
Very little is known about this fluid.
It acts upon starchy substances converting
them into sugar.

Defecation is the last stage of the

digestive process. It is by this act that all innutritious substances are expelled from the alimentary canal. The large intestine like the small is divided into three parts viz, the caecum colon and rectum.

At the termination of the small intestine and commencement of the large is a valve like arrangement, known as the ileo-caecal valve which permits the contents of the intestine to pass downward, but all [illegible] regurgitation.

The contents of the large intestine are known as the faeces. They have a very ill smelling odor supposed to [illegible] to be caused by the [illegible]

glands of Fig. 7. Their color changes according to the nature of the food. On a mixed diet they have a yellowish-brown color, on a flesh diet, much darker, on a milk diet, a yellowish hue.

Absorption. We have noticed the various changes that the food has undergone in the alimentary canal. All the nutrient elements are now to be taken up by the absorbents, preparatory to their assimilation to the blood.

The absorption of these elements is accomplished by the bloodvessels and lacteals. The villi are the active agents in this work. They are found in large numbers throughout the small intestine. Each villus is provided with

an absorbent set of capillaries.

The use products of digestion taken up by the blood vessels, pass first through the liver before entering the general circulation.

The lacteals have their origin in the villi. They are a part of the great lymphatic system. They were discovered by Asellius in the year 1622. Some years after the great discovery of the circulation of the blood by Harvey. The lacteals were first seen by the discoverer, owing to their white appearance he supposed them to be nerves, but upon pricking them with his scalpel, a white milky fluid issued from them, much resembling

chyle. It is only after a meal contain-
ing fatty ingredients that the vessels
contain chyle. When digestion is not
going on they contain simply lymph.
Asellius believed that the chyle was
absorbed by the lacteals, passed directly
to the liver, but in 1622, Pecquet discov-
ered the receptaculum chyli, and showed
the chyle is carried after having passed
through the mesenteric glands.

From the receptaculum chyli it is
conducted by the thoracic duct to
the left subclavian vein at its junction
with the internal jugular. It is then
poured into the circulating current
of venous blood and carried through
the walls cavities of the heart and

the lungs there to be oxygenated
and converted into arterial blood.
In passing through the pulmonary
circulation the fats undergo some
change, not exactly understood,
by which their distinguishing charac-
-teristics are lost. They can no longer
be recognized by the usual tests.
The object of digestion is now seen to
have been attained and the ass-
-imilation has been accomplished.
It is by this important process
that the human system is con-
-structed.
All the elements of nutrition are
contained in the blood. By the
the circulation this fluid bears

out the organism that the various systems receive their supply of nutrient material, thus, enabling the organs composing those systems to perform their functions perfectly.

It is impossible to say where and how assimilation takes place, and why the blood should give up some of its material to the integument, some to bone, hair, nails, muscles &c. supplying to each its proper nourishment. We only know that it is done. To attempt to explain this process is useless. It is one of the impenetrable mysteries which the human intellect can not fathom. It is the work of the wise Creator whose ways are pa

finding out.

The organs of digestion receive their nerves entirely from the pneumo-gastric and sympathetic nerves.

A communication of one part of the system with another is formed through the sympathetic. It is by this nerve that one organ takes cognizance of the condition of other organs.

So intimately is the nervous system connected with digestion, that we can readily see how the emotions as fear, anger, &c. can impair the function.

A. Thiess's

Surgical Instruments

Hire Day Book.

1876

Fracture

The term fracture is used to denote a solution of bone continuity, distinct from dislocations, as this is a solution of bone contiguity. — The term fracture I use in regard to bone. Although we may have a fracture of cartilage, and by some [illegible] of the penis, this I think is a [illegible] poma, and should be placed under the head of "ruptures".

Fractures generally speaking are divided into two great classes, Viz Complete and Incomplete.

A complete fracture is where the fracture runs entirely through the bone, or where there is an entire solution of bone continuity—
Incomplete is where the bone is not entirely broken; it is partially broken and then bent. This variety of fracture occurs principally in the young; and is called "green stick fracture"
Fractures are again subdivided into several classes, "Viz": Simple, Compound, Comminuted, Complicated, and Impacted. — Simple fracture is where the bone is broken, and there is not much injury done to the soft parts. — Compound fracture is where in addition to the broken

bone, there is a wound communicating from the bone to the atmosphere. Complicated fracture is where there is something to accompany the broken bone, as the laceration of an artery. Comminuted is where the bone is broken into several pieces. Impacted is where the bones are driven into or jammed into each other. — As regards the direction of a fracture in relation to the bone, these are various. I shall strive to give a detail of the most important.

Transverse. — This variety of fracture usually occurs in children. It is where the bone is as it were snaped off or broken straight across.

Oblique. This is the [illegible] in the adult. This variety of fracture usually runs a considerable length of the bone. It is more dangerous than the transverse. Owing to the obliquity of the fracture it gives a sharp end to each fragment of body. Serated is where the bone is broken directly across and the edges are rough, irregular, and dentated.

In accordance to the direction of a fracture will be the displacement. The direction of a fracture is of great interest, as a knowledge of it will aid in giving a "Diagnosis". — Causes of fracture

These may be divided into two

classes.— Exciting and predisposing [illegible]

predisposing causes. Any disease which debilitates the general health such as Syphilis Rachitis &c are predisposing causes.

Exciting causes may be divided into two classes — External violences and muscular violence. Muscular Violence. — In this variety of fracture the bones are usually broken near the insertion of some large muscle. As in fracture of the humerus. The fracture occurs near the insertion of the Deltoid muscle.

The best way [illegible] to give a [illegible]
ription of this variety of fracture
will be to give the details of a case
which occured in this City and
was treated at this Infirmary.
A man was in the Hospital under
treatment for fracture of the Humer-
us, about an inch below the inser-
tion of the Deltoid muscle. He rap-
idly improved under skilful
treatment and in six weeks was
dismissed as being well. He
was overjoyed at his speedy
recovery and meeting a friend
he wished to show him the strength
of his recently fractured [illegible]
so he playfully picked up [illegible]

brick and tossed it at him. Immediately his arm fell paralized (or as if it was so) he was immediately carried back to the Infirmary and there it was discovered that he had sustained a fracture of the Humerus, about an inch above the former fracture. The fracture taking place just under the insertion of the Deltoid. The Patella is more frequently fractured in this way than any other bone in the body. The Humerus ranks next.—

External violence

There are two great causes. direct and indirect.— Direct

is where a bone is broken, just where it receives an injury, as, from a blow, or from some vehicle running over a part.

Indirect is where a bone is broken some distance from where it receives a blow, or violence; take for an example, a man falls from a height and catches on his head, receives a fracture at the base of his skull. Or a man falls, catches on his hand and receives a fracture of the humerus. The theory in regard to this "counterstroke" or as the French term it "Contrecoup", I shall now endeavor to give. I will

take for an example the following.
A man falls with considerable
violence - catches on his hand. The
force of the fall is carried up his
fore-arm, to the humerus - from
thence it is carried to the Glenoid
cavity - here it meets with the
weight of the body this of course
checks the momentum. The force
is now thrown down the arm
where meeting with the least resis-
tance it fractures the bone. —
Intrauterine fracture. This is
where the mother during the last
months of pregnancy receives an
injury, the injury is consequent
to the fracture, as when it is [illegible]

it will have a bone or several bones fractured. — This is considered one of the Surgical Emissities. —

Semiology

This may be divided into three great classes, "Viz" —

1st Change in the shape of the part Deformity. — 2nd Mobility in its continuity. — 3rd The existence of grating between the broken ends of the bone — Crepitus.

Deformity

This is due to the displacement of the broken ends of the bone, and is perhaps the most important sign of fracture. — Deformity is due to two causes: 1st The violence

which position is the same. 2nd is the action of muscles. — 1st the violence done to the limb may be of such force as to knock it entirely out of position as fractures which occur from being caught in the brass pins of a car: — 2nd action of muscles. In fractures of the Femur we have this well shown. In fractures of the neck of this bone we have the leg turned outwards and shortened. — The Surgeon can also find deformity by placing his hand on the limb and moving to and fro. In this way he will be able to find undulation over the seat of fracture.

2nd Mobility — The occurrence of preternatural mobility cannot appear unless you have fracture, and separation of the fragments of bone from each other. When you have a fracture near a joint it is pretty hard to discern mobility then you will have to make the movement which is abnormal with the joint.

3rd Crepitus.

This is the sound which results from rubbing one end of the fragment one against the other. In impacted [illegible], or green stick fracture you can not get crepitus. If you get crepitus you may know you

have fracture. But if you cannot it is not a sure sign that there is no fracture. — Fibrous crepitation is liable to deceive a young Surgeon. This is like the sound which results from rubbing two pieces of linnen together.

Pain. This is due to the [illegible] of the soft parts. [illegible] often accompanies fracture.

— Diagnosis —

You will begin by getting the patients confidence [illegible] as possible. This you can do [illegible] getting him to talk [illegible]. [illegible]

[illegible]. 1st [illegible] the position of the patient [illegible] [illegible] the [illegible]. 3rd you will strip the patient and compare the injured part with that of the sound. Now commence your manipulation. In manipulating, do it with care and gentleness. It is not at all necessary to handle the patient as if he were a [illegible]. The [illegible] [illegible] [illegible] History Inspection and [illegible] [illegible] [illegible] thing [illegible] made.

Repair of fracture.

After fracture there is a certain amount of blood extravasated around the bone. This state lasts for ten or fifteen days and after this it undergoes absorption. After this extravasation there is a state of rest which last for a day or two. Now inflammatory action will take place. The result of the inflammatory action will be the excretion of pus or lymph. This lymph will be thrown out by the periosteum, the medullary canal, and also the tissue around the broken bone. This lymph stim

or agglutinate the ends of the bone together. There you will see that the ends of the bone will be tied together by this great map of inflammatory exudation. The lymph gradually becomes more and more consolidated, and as it becomes firmer the mobility of the fragments lessen. By the third or fourth week the lymph has assumed a sufficient degree of firmness to keep the bone in a position. Although you can easily get motion at the seat of fracture. The lymph gradually undergoes ossification. This commences near or around

the blood vessels which supply the lymph, and make it an organized substance. The bony matter is deposited in a granular manner. It is deposited in sufficient quantity in six or eight weeks to unite the bones rather firmly. The callus (for this is the name of this matter which has undergone ossification) which is soft and spongy at first gradually assimilates to old bone in hardness and structure. By six or eight months ossification is perfect. The last process in the consolidation of the fracture is the formation of new bone lateral

the broken ends. This does not take place for some considerable time after the ensheathing callus has been formed. —

In some instances the plastic matter does not undergo ossification; but is transformed into ordinary fibrous tissue, as in cecal traces of soft parts, thus it forms what is called a false joint.

In the formation of callus there is generally an extra amount thrown out, or formed, but before or by the time, that this intermediate callus (or definite) has been formed, this extra amount has been removed, or has moulded

itself, to the shape, to which it will afterwards remain; the medullary canal having again become free, and the ends of the fractured bone rounded off. In some cases the medullary canal is not pervious for some time continuing to be occluded by a septum of callus. —
When the bones are not kept in a state of rest there will be a provisional amount of callus thrown out. This often causes considerable deformity, as in fracture of the Clavicle & ribs. The aforesaid means does not take place the same way in

fracture of the cancellated portion of bone. The cause of this being, that the cancellated portion is so porous that it absorbs the amount of callus which is thrown out; and thus there is scarcely any bone on the external surface.

Union of Compound fractures. The difference between this and simple, is the same difference as it is between the healing process of a subcutaneous and an open wound. In one there is scarcely any perceptible effect upon the constitution, while in the other the nervous and the vascular system is extremely apt

to granulation [illegible] compound fractures, such as erysipelas, inflammation of the absorbents or veins, pyaemia &c. In compound fracture union takes ~~on~~ ~~in~~ ~~take~~ place by the ends of the bone which lie in pus, granulating, and throwing out plastic matter which becomes converted into bone. In many cases the provisional callus is not much; but in most cases there is a large quantity of necessary osseous deposit takes place, particularly if the displacement is great. The union of these fractures resembles that of a wound in the soft parts healing by second

intensions. — This process requires a longer time than that of simple fracture. Consolidation often not being properly effected for three or four months, and often requires a longer time than this. — The reunion of fractures takes place more speedily in the young than in the old, and more speedily in the upper extremity than in the lower.

Treatment of Simple fracture

In the treatment of fractures it is not only the duty of the Surgeon to give a sound and strong limb, but it is, that the patient should have as little deformity as possible.

And the way to prevent deformity is to continue some means that will keep the bones in just apposition.—
When a Surgeon is called to see a patient, with a severe fracture of the upper or lower limbs he should look at the condition of the body, then should be firm, flat & hard, and if possible covered with a horse-hair mattress.
The patient will have to lay in bed some time, and this seems to be the best contrivance to prevent motion.
If the Surgeon has not the appliances he should place the limb on a pillow or something soft, to rest it in an easy position.— After all the bones are set & ready, the Surgeon should

commence reduction; — this should be done as quickly as possible after the injury; for in a day or two the muscles get in a rigid state; and the broken bones are hard to get in a condition of apposition. In reduction the surgeon should use as little force as possible. In bringing the bones in coaptation our principal obstacle is the contraction of muscles. This must be overcome by relaxing them, by placing the limb in certain positions. — After the bones have been properly set, the surgeon has to use certain contrivances to prevent a return of the displacement

; And these consist of bandages, splints, and special apparatus of various kinds. In applying these care should be taken not to exert too much force or pressure on the limb. - Pads and compresses of all kinds should be avoided. When there is much tendency of the return of the displacement, it has been recommended to divide the tendons of the muscles particularly those attached to the lower end of the fragment.

Bandages. These should be over three inches in breadth, and of sufficient length and should be made of the ordinary gray muslin. In applying these care should be taken in

the turns not to have it to press unevenly on the parts. Bandages should not be applied under splints, particularly at the flexures of the joints. No bandages should be applied on the limb at the seat of operation. Bandages may be applied before the [illegible] to [illegible] [illegible].

Splints — These are made of various materials such as tin, wood, leather, &c. The Surgeon should not [illegible] [illegible] to any particular splint. Splints are made to fit the limb as exactly as possible, so when they are applied they will keep the parts of bone together — to prevent shortening and this when [illegible]

particularly to the lower extremity there has been many splints contrived, the best and most useful is the following (that is I think it is the best). We will take an example fracture of the femur.

After the bones have been [illegible] in apposition, two adhesive strips are applied to the lower fragment running down to the foot, these are brought together at the foot, and a piece of thin board is placed between them, to this is attached a piece of cord, now to the foot of the bed is attached a piece of board running up about one foot above the bed on the top of this board is attached

a roller. To the cord which is attached to the board at the bottom of the foot there are some weights tied. This cord is now placed in the roller at the foot of the bed. Over this adhesive plaster you now place the splint. You can see that the adhesive plaster does not at all interfere with this arrangement; And you have continued traction exerted. And above all you prevent shortening [illegible]. [illegible] have been [illegible] [illegible] upon patients in the Hospital under the treatment of Prof. Tiffany. Plaster paris bandages may be used [illegible]

fractures of the tibia and fibula.
These splints will allow the patient
to hobble around on crutches im-
mediately after they are put on. The
Watch bandage acts in the same
way. ——

Treatment of Compound fractures.
In this variety you have a wound
to treat in conjunction with
a broken bone. And in applying
the splint you will have to be
around so that you will be able
to treat the wound as well as the
broken bone. In this variety
fracture I think Smith's anterior
splint is the best, for with this
you are able to treat the wound

without putting the patient to any discomfort. The limb is swung in the air in an easy position for the surgeon, and the bars which cross the splint will give ample room for treatment. This variety of fracture is very depressing to the constitution, and you will have to give the patient tonics, stimulants, and above all good nutritious food. Use antiseptics upon the wound if there is an ill smelling odor. Use cold lotions at first to keep down inflammation, and continue the use of antiflogistics internally if there is much pain give anodynes.

In the treatment of complicated, Comminuted and Impacted fractures I will not have much to say for in the treatment of the other varieties of fracture. I have made use of the remedies which are brought to bear in treatment of these varieties of fracture. Complicated fracture here it will depend upon the complication, if it is complicated with a dislocation reduce the dislocation & treat as a simple fracture. If it is complicated with an injury of an artery if you cannot stop the hemorrhage by mild modes legate

Impacted fracture. This usually occurs in fractures of the extremities[illegible]. This variety had better be left alone unless it is in one of the long-bones; Then [illegible] the [illegible] and treat, as a simple fracture.

Comminuted. In this form bring the splintered ends together if they are not denuded of periosteum, as well as you can. If [illegible] the ends projecting through the skin there is apt to be a great deal of sloughing. Use [illegible] [illegible] [illegible]